Untitled

2024-05-06

```
library("MASS")
library(e1071)
library(ggplot2)

data(Boston)
```

SVR With Linear Kernel

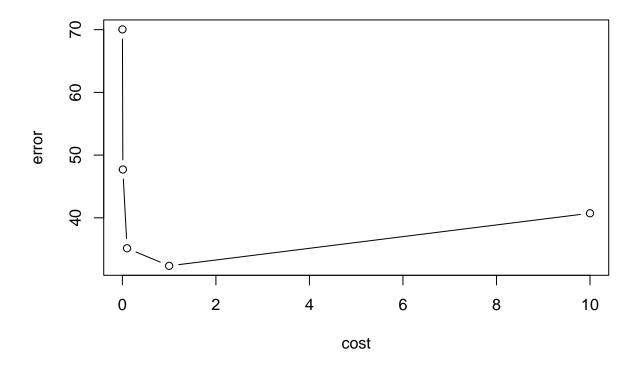
```
set.seed(42)

test = sample(1:nrow(Boston), size=100)
train = which(!(1:nrow(Boston)) %in% test)

cost <- c(0.001, 0.01, 0.1, 1, 10)
epsilon <- c(0.001, 0.01, 0.1, 1)

tune.out <- tune(svm, medv ~., data = Boston[train, ], kernel = "polynomial", ranges=list(cost=cost))
plot(tune.out)</pre>
```

Performance of 'svm'



```
print(tune.out$best.parameters)
##
     cost
## 4
         1
data(Boston)
set.seed(42)
test = sample(1:nrow(Boston), size=100)
train = which(!(1:nrow(Boston)) %in% test)
cost \leftarrow c(0.001, 0.01, 0.1, 1, 10)
epsilon \leftarrow c(0.001, 0.01, 0.1, 1)
tune.out <- tune(svm, medv ~., data = Boston[train, ], kernel = "linear", ranges=list(cost=cost, epsilon
perf <- tune.out$performances</pre>
perf$cost <- factor(perf$cost)</pre>
error <- tune.out$performances$error</pre>
#print(tune.out$performances)
optimal_vals <- tune.out$best.parameters</pre>
print(optimal_vals)
##
      cost epsilon
## 13 0.1
ggplot(perf) + geom_line(aes(epsilon, error, group=cost, color=cost)) + scale_x_log10() + scale_y_log10
  50 -
  40 -
                                                                                     cost
                                                                                          0.001
                                                                                          0.01
error
                                                                                          0.1
                                                                                          1
  30 -
                                                                                          10
                             0.010
                                                     0.100
      0.001
                                                                            1.000
```

The graph in this case has a convex shape. We find that the best parameters for our study is an epsilon of

epsilon

0.1 and a cost of 0.1. This is also reflected in our graph where it dips at close to 0.25/2. However, it is also better to experiment with more fine-grained values once you have an initial estimate.

```
cost \leftarrow c(0.015, 0.01, 0.1, 0.15, 0.2)
epsilon \leftarrow c(0.015, 0.01, 0.1, 0.15)
tune.out <- tune(svm, medv ~., data = Boston[train, ], kernel = "linear", ranges=list(cost=cost, epsilon
perf <- tune.out$performances</pre>
perf$cost <- factor(perf$cost)</pre>
error <- tune.out$performances$error</pre>
#print(tune.out$performances)
optimal_vals <- tune.out$best.parameters</pre>
print(optimal_vals)
##
      cost epsilon
## 18 0.1
               0.15
ggplot(perf) + geom_line(aes(epsilon, error, group=cost, color=cost)) + scale_x_log10()
  23.2 -
  22.8 -
                                                                                        cost
                                                                                            0.01
error
                                                                                            0.015
                                                                                            0.1
  22.4 -
                                                                                            0.15
                                                                                             0.2
  22.0 -
                                     0.03
        0.01
                                                                    0.10
                                          epsilon
```

The graphs in this case do not have a nice convex shape as we hoped. However, through more fine-tuning we find that the ideal parameters for cost and epsilon are 0.2 and 0.15 respectively.

##		pred			
	true	•	5.43672184475695	5.94202743472564	6.00161566669524
##	5	0	0	0	1
##	7	0	0	0	0
##	7.2	0	0	0	0
##	8.4	0	0	0	0
##	8.5	0	0	0	0
##	10.4		0	1	0
##	10.5		0	0	0
##	11.5		0	0	0
##	11.8		0	0	0
##	11.9		0	0	0
##	12	0	0	0	0
##	13.1	0	0	0	0
##	13.2		0	0	0
## ##	13.5 13.6		0	0	0
##	13.8		1	0	0
##	14.3		0	0	0
##	14.4		0	0	0
##	14.5		0	0	0
##	14.6		0	0	0
##	15.2		0	0	0
##	15.3		0	0	0
##	16.1	0	0	0	0
##	16.2	0	0	0	0
##	16.8	0	0	0	0
##	17.1	0	0	0	0
##	17.5		0	0	0
##	17.6		0	0	0
##	17.8		0	0	0
##	18.1	0	0	0	0
##	18.2		0	0	0
##	18.5		0	0	0
## ##	18.6 18.7		0	0	0
##	19.2		0	0	0
##	19.2		0	0	0
##	19.4		0	0	0
##	19.6		0	0	0
##	19.8		0	0	0
##	19.9		0	0	0
##	20	0	0	0	0
##	20.3		0	0	0
##	20.5	0	0	0	0
##	20.6		0	0	0
##	21.4		0	0	0
##	21.6		0	0	0
##	21.7		0	0	0
##	21.9		0	0	0
##	22.5		0	0	0
##	22.6		0	0	0
##	22.7		0	0	0
##	23	0	0	0	0

##	23.1	0	0	0	0
##	23.4	0	0	0	0
##	23.6	0	0	0	0
##	23.7	0	0	0	0
##	23.8	0	0	0	0
##	23.9	0	0	0	0
##	24.5	0	0	0	0
##	24.7	0	0	0	0
##	25	0	0	0	0
##	26.4	0	0	0	0
##	26.7	0	0	0	0
##	27.1	0	0	0	0
##	27.5	0	0	0	0
##	27.9	0	0	0	0
##	28.6	0	0	0	0
##	29.6	0	0	0	0
##	29.8	0	0	0	0
##	30.8	0	0	0	0
##	31.6	0	0	0	0
##	33.2	0	0	0	0
##	33.3	0	0	0	0
##	33.4	0	0	0	0
##	34.7	0	0	0	0
##	36	0	0	0	0
##	36.2	0	0	0	0
##	36.5	0	0	0	0
##	37.3	0	0	0	0
##	41.3	0	0	0	0
##	43.1	0	0	0	0
##	46	0	0	0	0
##	50	0	0	0	0
##	pred				
##	true 6.45	024198662215		9.46276859786192	10.3954533238182
##	5	1	0	0	0
##	7	0	0	0	0
##	7.2	0	0	0	0
##	8.4	0	0	0	0
##	8.5	0	1	0	0
##	10.4	0	0	0	0
##	10.5	0	0	0	0
##	11.5	0	0	0	0
##	11.8	0	0	0	0
##	11.9	0	0	0	0
##	12	0	0	1	0
##	13.1	0	0	0	0
##	13.2	0	0	0	0
##	13.5	0	0	0	0
##	13.6	0	0	0	0
##	13.8	0	0	0	0
##	14.3 14.4	0	0	0	0
## ##	14.4 14.5	0	0	0	1
##	14.5 14.6	0	0	0	0
##	15.2	0	0	0	0
##	10.2	U	0	0	0

##	15.3	0	0	0	0
##	16.1	0	0	0	0
##	16.2	0	0	0	0
##	16.8	0	0	0	0
##	17.1	0	0	0	0
##	17.5	0	0	0	0
##	17.6	0	0	0	0
##	17.8	0	0	0	0
##	18.1	0	0	0	0
##	18.2	0	0	0	0
##	18.5	0	0	0	0
##	18.6	0	0	0	0
##	18.7	0	0	0	0
##	19.2	0	0	0	0
##	19.3	0	0	0	0
##	19.4	0	0	0	0
##	19.6	0	0	0	0
##	19.8	0	0	0	0
##	19.9	0	0	0	0
##	20	0	0	0	0
##	20.3	0	0	0	0
##	20.5	0	0	0	0
##	20.6	0	0	0	0
##	21.4	0	0	0	0
##	21.6	0	0	0	0
##	21.7	0	0	0	0
##	21.9	0	0	0	0
##	22.5	0	0	0	0
##	22.6	0	0	0	0
##	22.7	0	0	0	0
##	23	0	0	0	0
##	23.1	0	0	0	0
##	23.4	0	0	0	0
##	23.6	0	0	0	0
##	23.7	0	0	0	0
##	23.8	0	0	0	0
##	23.9	0	0	0	0
##	24.5	0	0	0	0
##	24.7	0	0	0	0
##	25	0	0	0	0
##	26.4	0	0	0	0
##	26.7	0	0	0	0
##	27.1	0	0	0	0
##	27.5	0	0	0	0
##	27.9	0	0	0	0
##	28.6	0	0	0	0
##	29.6	0	0	0	0
##	29.8	0	0	0	0
##	30.8	0	0	0	0
##	31.6	0	0	0	0
##	33.2	0	0	0	0
##	33.3	0	0	0	0
##	33.4	0	0	0	0
##	34.7	0	0	0	0

##	36	0	0	(
##	36.2	0	0	(
##	36.5	0	0	(
##	37.3 41.3	0	0	(
## ##	41.3	0	0	(
##	43.1 46	0	0	(
##	50	0	0	(
##		red	U	(0
##			11.5731961956604	11 775787576104	12 0605308265842
##	5	0	0	0	0
##	7	1	0	0	0
##	7.2	0	0	0	0
##	8.4	0	0	0	0
##	8.5	0	0	0	0
##	10.4	0	0	0	0
##	10.5	0	0	0	0
##	11.5	0	0	0	1
##	11.8	0	0	0	0
##	11.9	0	0	0	0
##	12	0	0	0	0
##	13.1	0	0	0	0
##	13.2	0	1	0	0
##	13.5	0	0	0	0
##	13.6	0	0	0	0
##	13.8	0	0	0	0
##	14.3	0	0	0	0
##	14.4	0	0	0	0
##	14.5	0	0	0	0
##	14.6	0	0	0	0
##	15.2	0	0	0	0
##	15.3	0	0	0	0
##	16.1	0	0	0	0
##	16.2	0	0	0	0
## ##	16.8 17.1	0	0	0	0
##	17.1	0	0	0	0
##	17.6	0	0	0	0
##	17.8	0	0	1	0
##	18.1	0	0	0	0
##	18.2	0	0	0	0
##	18.5	0	0	0	0
##	18.6	0	0	0	0
##	18.7	0	0	0	0
##	19.2	0	0	0	0
##	19.3	0	0	0	0
##	19.4	0	0	0	0
##	19.6	0	0	0	0
##	19.8	0	0	0	0
##	19.9	0	0	0	0
##	20	0	0	0	0
##	20.3	0	0	0	0
##	20.5	0	0	0	0
##	20.6	0	0	0	0

			_	_	_
##	21.4	0	0	0	0
##	21.6	0	0	0	0
##	21.7	0	0	0	0
##	21.9	0	0	0	0
##	22.5	0	0	0	0
##	22.6	0	0	0	0
##	22.7	0	0	0	0
##	23	0	0	0	0
##	23.1	0	0	0	0
##	23.4	0	0	0	0
##	23.6	0	0	0	0
##	23.7	0	0	0	0
##	23.8	0	0	0	0
##	23.9	0	0	0	0
##	24.5	0	0	0	0
##	24.7	0	0	0	0
##	25	0	0	0	0
##	26.4	0	0	0	0
##	26.7	0	0	0	0
##	27.1	0	0	0	0
##	27.5	0	0	0	0
##	27.9	0	0	0	0
##	28.6	0	0	0	0
##	29.6	0	0	0	0
##	29.8	0	0	0	0
##	30.8	0	0	0	0
##	31.6	0	0	0	0
##	33.2	0	0	0	0
##	33.3	0	0	0	0
##	33.4	0	0	0	0
##	34.7	0	0	0	0
##	36	0	0	0	0
##	36.2	0	0	0	0
##	36.5	0	0	0	0
##	37.3	0	0	0	0
##	41.3	0	0	0	0
##	43.1	0	0	0	0
##	46	0	0	0	0
##	50	0	0	0	0
##	pre		-	-	-
##			12.2983638064436	13.1165304676943	13.8261247230577
##	5	0	0	0	0
##	7	0	0	0	0
##	7.2	0	0	0	0
##	8.4	0	0	0	0
##	8.5	0	0	0	0
##	10.4	0	0	0	0
##	10.5	0	0	0	0
##	11.5	0	0	0	0
##	11.8	0	1	0	0
##	11.9	0	0	0	0
##	12	0	0	0	0
##	13.1	0	0	0	1
##	13.1	0	0	0	0
##	13.2	U	Ü	Ü	0

##	13.5	0	0	0	0
##	13.6	0	0	0	0
##	13.8	0	0	1	0
##	14.3	0	0	0	0
##	14.4	0	0	0	0
##	14.5	0	0	0	0
##	14.6	0	0	0	0
##	15.2	0	0	0	0
##	15.3	0	0	0	0
##	16.1	0	0	0	0
##	16.2	0	0	0	0
##	16.8	0	0	0	0
##	17.1	0	0	0	0
##	17.5	0	0	0	0
##	17.6	0	0	0	0
##	17.8	0	0	0	0
##	18.1		0		0
		0		0	
##	18.2	0	0	0	0
##	18.5	0	0	0	0
##	18.6	0	0	0	0
##	18.7	0	0	0	0
##	19.2	0	0	0	0
##	19.3	0	0	0	0
##	19.4	0	0	0	0
##	19.6	0	0	0	0
##	19.8	0	0	0	0
##	19.9	0	0	0	0
##	20	0	0	0	0
##	20.3	0	0	0	0
##	20.5	0	0	0	0
##	20.6	0	0	0	0
##	21.4	0	0	0	0
##	21.6	0	0	0	0
##	21.7	0	0	0	0
##	21.9	1	0	0	0
##	22.5	0	0	0	0
##	22.6	0	0	0	0
##	22.7	0	0	0	0
##	23	0	0	0	0
##	23.1	0	0	0	0
##	23.4	0	0	0	0
##	23.6	0	0	0	0
##	23.7	0	0	0	0
##	23.8	0	0	0	0
##	23.9	0	0	0	0
##	24.5	0	0	0	0
##	24.7	0	0	0	0
##	25	0	0	0	0
##	26.4	0	0	0	0
##	26.7	0	0	0	0
##	27.1	0	0	0	0
##	27.5	0	0	0	0
##	27.9	0	0	0	0
##	28.6	0	0	0	0

##	29.6	(0 (
##	29.8	() (
##	30.8	() (
##	31.6	() (
##	33.2) (
##	33.3	() (
##	33.4	()) (
##	34.7	()) (
##	36	()) (
##	36.2	()) (
##	36.5	()) (0
##	37.3	()) (0
##	41.3	()) (0
##	43.1	()) (0
##	46	()) (0
##	50	()) (0
##		pred			
##	true		14.4225837003745	14.5932852288733	14.7035381876376
##	5	0	0	0	0
##	7	0	0	0	0
##	7.2	0	0	0	0
##	8.4	0	0	0	0
##	8.5	0	0	0	0
##	10.4		0	0	0
##	10.5	0	0	0	0
##	11.5	0	0	0	0
##	11.8	0	0	0	0
##	11.9	0	0	0	0
##	12	0	0	0	0
##	13.1	0	0	0	0
##	13.1	0	0	0	0
##	13.5	0	0	0	1
##	13.6	0	0	0	0
##	13.8	0	0	0	0
##	14.3	0	0	1	0
##	14.3	0	0	0	0
	14.5	0	1	0	0
##					
##	14.6	0	0	0	0
##	15.2		0	0	0
##	15.3		0	0	0
##	16.1	0	0	0	0
##	16.2		0	0	0
##	16.8		0	0	0
##	17.1	0	0	0	0
##	17.5	0	0	0	0
##	17.6	0	0	0	0
##	17.8		0	0	0
##	18.1	0	0	0	0
##	18.2	0	0	0	0
##	18.5	0	0	0	0
##	18.6	0	0	0	0
##	18.7	0	0	0	0
##	19.2		0	0	0
##	19.3	0	0	0	0

	10.1	•	•	•	•
##	19.4	0	0	0	0
##	19.6	0	0	0	0
##	19.8	0	0	0	0
##	19.9	0	0	0	0
##	20	0	0	0	0
##	20.3	0	0	0	0
##	20.5	0	0	0	0
##	20.6	0	0	0	0
##	21.4	0	0	0	0
##	21.6	0	0	0	0
##	21.7	0	0	0	0
##	21.9	0	0	0	0
##	22.5	0	0	0	0
##	22.6	0	0	0	0
##	22.7	0	0	0	0
##	23	0	0	0	0
##	23.1	0	0	0	0
##	23.4	0	0	0	0
##	23.6	0	0	0	0
##	23.7	1	0	0	0
##	23.8	0	0	0	0
##	23.9	0	0	0	0
##	24.5	0	0	0	0
##	24.7	0	0	0	0
##	25	0	0	0	0
##	26.4	0	0	0	0
##	26.7	0	0	0	0
##	27.1	0	0	0	0
##	27.5	0	0	0	0
##	27.9	0	0	0	0
##	28.6	0	0	0	0
##	29.6	0	0	0	0
##	29.8	0	0	0	0
##	30.8	0	0	0	0
	31.6	0		0	0
## ##	33.2	0	0	0	0
	33.3	0	0	0	0
## ##					
	33.4	0	0	0	0
##	34.7 36	0	0	0	0
##	36.2		0	0	0
##		0	0	0	0
##	36.5	0	0	0	0
##	37.3	0	0	0	0
##	41.3	0	0	0	0
##	43.1	0	0	0	0
##	46	0	0	0	0
##	50	0	0	0	0
##	pred	7040000044000 15	0.000770007500 45	404.4400055040 45 500	2504457225
##				.4314183255312 15.532	
##	5	0	0	0	0
##	7	0	0	0	0
##	7.2	0	0	0	0
##	8.4	0	1	0	0
##	8.5	0	0	0	0

##	10.4	0	0	0	0
##	10.5	0	0	0	0
##	11.5	0	0	0	0
##	11.8	0	0	0	0
##	11.9	0	0	0	0
##	12	0	0	0	0
##	13.1	0	0	0	0
##	13.2	0	0	0	0
##	13.5	0	0	0	0
##	13.6	0	0	0	1
##	13.8	1	0	0	0
##	14.3	0	0	0	0
##	14.4	0	0	0	0
##	14.5	0	0	0	0
##	14.6	0	0	0	0
##	15.2	0	0	0	0
##	15.3	0	0	0	0
##	16.1	0	0	0	0
##	16.2	0	0	1	0
##	16.8	0	0	0	0
##	17.1	0	0	0	0
##	17.5	0	0	0	0
##	17.6	0	0	0	0
##	17.8	0	0	0	0
##	18.1	0	0	0	0
##	18.2	0	0	0	0
##	18.5	0	0	0	0
##	18.6	0	0	0	0
##	18.7	0	0	0	0
##	19.2	0	0	0	0
##	19.3	0	0	0	0
##	19.4	0	0	0	0
##	19.6	0	0	0	0
##	19.8	0	0	0	0
##	19.9	0	0	0	0
##	20	0	0	0	0
##	20.3	0	0	0	0
##	20.5	0	0	0	0
##	20.6	0	0	0	0
##	21.4	0	0	0	0
##	21.6	0	0	0	0
##	21.7	0	0	0	0
##	21.9	0	0	0	0
##	22.5	0	0	0	0
##	22.6	0	0	0	0
##	22.7	0	0	0	0
##	23	0	0	0	0
##	23.1	0	0	0	0
##	23.4	0	0	0	0
##	23.6	0	0	0	0
##	23.7	0	0	0	0
##	23.8	0	0	0	0
##	23.9	0	0	0	0
##	24.5	0	0	0	0

##	24.7	0	0	0	0
##	25	0	0	0	0
##	26.4	0	0	0	0
##	26.7	0	0	0	0
##	27.1	0	0	0	0
##	27.5	0	0	0	0
##	27.9	0	0	0	0
##	28.6	0	0	0	0
##	29.6	0	0	0	0
##	29.8	0	0	0	0
##	30.8	0	0	0	0
##	31.6	0	0	0	0
##	33.2	0	0	0	0
##	33.3	0	0	0	0
##	33.4	0	0	0	0
##	34.7	0	0	0	0
##	34. <i>1</i> 36	0	0	0	0
##	36.2	0	0	0	0
##	36.5	0	0	0	0
##	37.3	0	0	0	0
##	41.3	0	0	0	0
##	43.1	0	0	0	0
##	46	0	0	0	0
##	50	0	0	0	0
##	pred				
##		17436594587 15.84154			
##	5	0	0	0	0
##	7	0	0	0	0
##	7.2	0	0	0	0
##	8.4	0	0	0	0
##	8.5	0	0	0	0
##	10.4	0	0	0	0
##	10.5				
##		0	0	0	0
##	11.5	0 0	0 0	0	0
##	11.5	0	0	0	0
	11.5 11.8	0 0	0 0	0 0	0 0
##	11.5 11.8 11.9	0 0 0	0 0 0	0 0 0	0 0 0
## ##	11.5 11.8 11.9 12 13.1	0 0 0 0	0 0 0 0	0 0 0 0	0 0 0
## ## ##	11.5 11.8 11.9	0 0 0 0	0 0 0 0	0 0 0 0	0 0 0 0
## ## ## ##	11.5 11.8 11.9 12 13.1 13.2 13.5	0 0 0 0 0	0 0 0 0 0	0 0 0 0 0	0 0 0 0 0
## ## ## ##	11.5 11.8 11.9 12 13.1 13.2 13.5 13.6	0 0 0 0 0 0	0 0 0 0 0 0	0 0 0 0 0 0	0 0 0 0 0 0
## ## ## ## ## ##	11.5 11.8 11.9 12 13.1 13.2 13.5 13.6 13.8	0 0 0 0 0 0 0	0 0 0 0 0 0 0	0 0 0 0 0 0 0	0 0 0 0 0 0
## ## ## ## ## ##	11.5 11.8 11.9 12 13.1 13.2 13.5 13.6 13.8 14.3	0 0 0 0 0 0 0	0 0 0 0 0 0 0	0 0 0 0 0 0 0	0 0 0 0 0 0 0 0
## ## ## ## ## ##	11.5 11.8 11.9 12 13.1 13.2 13.5 13.6 13.8 14.3	0 0 0 0 0 0 0 0	0 0 0 0 0 0 0 0	0 0 0 0 0 0 0 0	0 0 0 0 0 0 0 0 0
## ## ## ## ## ## ##	11.5 11.8 11.9 12 13.1 13.2 13.5 13.6 13.8 14.3 14.4 14.5	0 0 0 0 0 0 0 0	0 0 0 0 0 0 0 0	0 0 0 0 0 0 0 0	0 0 0 0 0 0 0 0 0
## ## ## ## ## ## ##	11.5 11.8 11.9 12 13.1 13.2 13.5 13.6 13.8 14.3 14.4 14.5 14.6	0 0 0 0 0 0 0 0 0	0 0 0 0 0 0 0 0	0 0 0 0 0 0 0 0 0	0 0 0 0 0 0 0 0 0 1 0 0
## ## ## ## ## ## ##	11.5 11.8 11.9 12 13.1 13.2 13.5 13.6 13.8 14.3 14.4 14.5 14.6 15.2	0 0 0 0 0 0 0 0 0	0 0 0 0 0 0 0 0 0	0 0 0 0 0 0 0 0 0	0 0 0 0 0 0 0 0 0 1 0 0
## ## ## ## ## ## ## ##	11.5 11.8 11.9 12 13.1 13.2 13.5 13.6 13.8 14.3 14.4 14.5 14.6 15.2 15.3	0 0 0 0 0 0 0 0 0	0 0 0 0 0 0 0 0 0	0 0 0 0 0 0 0 0 0 0	0 0 0 0 0 0 0 0 0 1 0 0 0
## ## ## ## ## ## ## ## ## ## ## ## ##	11.5 11.8 11.9 12 13.1 13.2 13.5 13.6 13.8 14.3 14.4 14.5 14.6 15.2 15.3 16.1	0 0 0 0 0 0 0 0 0 0		0 0 0 0 0 0 0 0 0 0	0 0 0 0 0 0 0 0 0 0 0
## ## ## ## ## ## ## ## ##	11.5 11.8 11.9 12 13.1 13.2 13.5 13.6 13.8 14.3 14.4 14.5 14.6 15.2 15.3 16.1 16.2			0 0 0 0 0 0 0 0 0 0 0	0 0 0 0 0 0 0 0 0 0 0 0 0
## ## ## ## ## ## ## ## ## ## ## ## ##	11.5 11.8 11.9 12 13.1 13.2 13.5 13.6 13.8 14.3 14.4 14.5 14.6 15.2 15.3 16.1 16.2 16.8				0 0 0 0 0 0 0 0 0 0 0 0 0 0 0
######################################	11.5 11.8 11.9 12 13.1 13.2 13.5 13.6 13.8 14.3 14.4 14.5 14.6 15.2 15.3 16.1 16.2 16.8 17.1			0 0 0 0 0 0 0 0 0 0 0 0	0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0
## ## ## ## ## ## ## ## ## ## ## ## ##	11.5 11.8 11.9 12 13.1 13.2 13.5 13.6 13.8 14.3 14.4 14.5 14.6 15.2 15.3 16.1 16.2 16.8				0 0 0 0 0 0 0 0 0 0 0 0 0 0 0

##	17.8	0	0	0	0
##	18.1	0	0	0	0
##	18.2	0	0	0	0
##	18.5	0	0	0	0
##	18.6	0	0	0	0
##	18.7	0	0	0	0
##	19.2	0	0	0	0
##	19.3	0	0	1	0
##	19.4	0	0	0	0
##	19.6	0	0	0	0
##	19.8	0	0	0	0
##	19.9	0	0	0	0
##	20	0	0	0	0
##	20.3	0	0	0	0
##	20.5	0	0	0	0
##	20.6	0	0	0	0
##	21.4	0	0	0	0
##	21.6	0	0	0	0
##	21.7	0	0	0	0
##	21.9	0	0	0	0
##	22.5	0	0	0	0
##	22.6	0	0	0	0
##	22.7	0	0	0	0
##	23	0	0	0	0
##	23.1	0	0	0	0
##	23.4	0	0	0	0
##	23.6	0	0	0	0
##	23.7	0	0	0	0
##	23.8	0	0	0	0
##	23.9	0	0	0	0
##	24.5	0	0	0	0
##	24.7	0	0	0	0
##	25	0	0	0	0
##	26.4	0	0	0	0
##	26.7	0	0	0	0
##	27.1	0	0	0	0
##	27.5			_	_
## ##	27.9 28.6	0	1 0	0	0
##	29.6	0	0	0	0
##	29.8	0	0	0	0
##	30.8	0	0	0	0
##	31.6	0	0	0	0
##	33.2	0	0	0	0
##	33.3	0	0	0	0
##	33.4	0	0	0	0
##	34.7	0	0	0	0
##	36	0	0	0	0
##	36.2	0	0	0	0
##	36.5	0	0	0	0
##	37.3	0	0	0	0
##	41.3	0	0	0	0
##	43.1	0	0	0	0
##	46	0	0	0	0

##	50	0	0	0	0
##		pred			
##	true	16.2869029285669	16.4219494102978	16.7363110527933	16.9359161491865
##	5	0	0	0	0
##	7	0	0	0	0
##	7.2	1	0	0	0
##	8.4	0	0	0	0
##	8.5	0	0	0	0
##	10.4		0	0	0
##	10.5		0	0	0
##	11.5		0	0	0
##	11.8		0	0	0
##	11.9		0	0	0
##	12	0	0	0	0
##	13.1		0	0	0
##	13.2		0	0	0
##	13.5		0	0	0
##	13.6		0	0	0
## ##	13.8 14.3		0	0	0
##	14.3		0	0	0
##	14.5		0	0	0
##	14.6		0	1	0
##	15.2		0	0	0
##	15.2		0	0	0
##	16.1		0	0	0
##	16.2		0	0	0
##	16.8		0	0	0
##	17.1		0	0	0
##	17.5		0	0	0
##	17.6		0	0	0
##	17.8		0	0	0
##	18.1	0	0	0	0
##	18.2	0	1	0	0
##	18.5	0	0	0	0
##	18.6	0	0	0	0
##	18.7	0	0	0	0
##	19.2		0	0	0
##	19.3		0	0	0
##	19.4		0	0	0
##	19.6		0	0	0
##	19.8		0	0	0
##	19.9		0	0	0
##	20	0	0	0	1
##	20.3		0	0	0
##	20.5		0	0	0
##	20.6		0	0	0
##	21.4		0	0	0
##	21.6		0	0	0
## ##	21.7 21.9		0	0	0
##	21.9		0	0	0
##	22.5		0	0	0
##	22.0		0	0	0
##	22.1	0	U	U	U

	00	•	^	^	•
##	23	0	0	0	0
##	23.1	0	0	0	0
##	23.4	0	0	0	0
##	23.6	0	0	0	0
##	23.7	0	0	0	0
##	23.8	0	0	0	0
##	23.9	0	0	0	0
##	24.5	0	0	0	0
##	24.7	0	0	0	0
##	25	0	0	0	0
##	26.4	0	0	0	0
##	26.7	0	0	0	0
##	27.1	0	0	0	0
##	27.5	0	0	0	0
##	27.9	0	0	0	0
##	28.6	0	0	0	0
##	29.6	0	0	0	0
##	29.8	0	0	0	0
##	30.8	0	0	0	0
##	31.6	0	0	0	0
##	33.2	0	0	0	0
##	33.3	0	0	0	0
##	33.4	0	0	0	0
##	34.7	0	0	0	0
##	36	0	0	0	0
##	36.2	0	0	0	0
##	36.5	0	0	0	0
##	37.3	0	0	0	0
##	41.3	0	0	0	0
##	43.1	0	0	0	0
##	46	0	0	0	0
##	50			0	0
##		^		U	O
##		0	0		
шш	pı	red		17 0469704505067	17 0615166000622
##	true :	red 17.1608421726223	17.7936502894979		
##	true 5	red 17.1608421726223 0	17.7936502894979 0	0	0
## ##	true 5 7	ced 17.1608421726223 0 0	17.7936502894979 0 0	0	0
## ## ##	true 5 7 7.2	red 17.1608421726223 0 0 0	17.7936502894979 0 0 0	0 0 0	0 0 0
## ## ## ##	true 5 7 7.2 8.4	red 17.1608421726223 0 0 0 0	17.7936502894979 0 0 0 0	0 0 0	0 0 0 0
## ## ## ##	true 5 7 7.2 8.4 8.5	red 17.1608421726223 0 0 0 0	17.7936502894979 0 0 0 0 0	0 0 0 0	0 0 0 0
## ## ## ##	true 5 7 7.2 8.4 8.5 10.4	red 17.1608421726223 0 0 0 0 0	17.7936502894979 0 0 0 0 0	0 0 0 0 0	0 0 0 0 0
## ## ## ##	true 5 7 7.2 8.4 8.5 10.4 10.5	red 17.1608421726223 0 0 0 0	17.7936502894979 0 0 0 0 0 0	0 0 0 0 0	0 0 0 0 0 0
## ## ## ## ##	true 5 7 7.2 8.4 8.5 10.4	red 17.1608421726223 0 0 0 0 0	17.7936502894979 0 0 0 0 0	0 0 0 0 0	0 0 0 0 0
## ## ## ## ## ##	true 5 7 7.2 8.4 8.5 10.4 10.5	red 17.1608421726223 0 0 0 0 0 0 0	17.7936502894979 0 0 0 0 0 0	0 0 0 0 0	0 0 0 0 0 0
## ## ## ## ## ##	true 5 7 7.2 8.4 8.5 10.4 10.5 11.5	red 17.1608421726223 0 0 0 0 0 0 0	17.7936502894979 0 0 0 0 0 0 0	0 0 0 0 0 0	0 0 0 0 0 0
## ## ## ## ## ##	true 5 7 7.2 8.4 8.5 10.4 10.5 11.5 11.8	red 17.1608421726223 0 0 0 0 0 0 0 0	17.7936502894979 0 0 0 0 0 0 0 0	0 0 0 0 0 0 0	0 0 0 0 0 0 0
## ## ## ## ## ## ##	true 5 7 7.2 8.4 8.5 10.4 10.5 11.5 11.8	red 17.1608421726223 0 0 0 0 0 0 0 0 0	17.7936502894979 0 0 0 0 0 0 0 0 0	0 0 0 0 0 0 0	0 0 0 0 0 0 0
## ## ## ## ## ## ##	true 5 7 7.2 8.4 8.5 10.4 10.5 11.5 11.8 11.9 12 13.1	red 17.1608421726223 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0	17.7936502894979 0 0 0 0 0 0 0 0 0 0	0 0 0 0 0 0 0 0 0	0 0 0 0 0 0 0 0
## ## ## ## ## ## ## ##	true 5 7 7.2 8.4 8.5 10.4 10.5 11.5 11.8 11.9 12 13.1 13.2	red 17.1608421726223 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0	17.7936502894979 0 0 0 0 0 0 0 0 0 0 0	0 0 0 0 0 0 0 0 0	0 0 0 0 0 0 0 0
## ## ## ## ## ## ## ##	true 5 7 7.2 8.4 8.5 10.4 10.5 11.5 11.8 11.9 12 13.1 13.2 13.5	red 17.1608421726223 0 0 0 0 0 0 0 0 0 0 0 0	17.7936502894979 0 0 0 0 0 0 0 0 0 0 0 0	0 0 0 0 0 0 0 0 0 0	0 0 0 0 0 0 0 0 0
## ## ## ## ## ## ## ## ##	true 5 7 7.2 8.4 8.5 10.4 10.5 11.5 11.8 11.9 12 13.1 13.2 13.5 13.6	red 17.1608421726223 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0	17.7936502894979 0 0 0 0 0 0 0 0 0 0 0 0 0	0 0 0 0 0 0 0 0 0 0	0 0 0 0 0 0 0 0 0
######################################	true 5 7 7.2 8.4 8.5 10.4 10.5 11.5 11.8 11.9 12 13.1 13.2 13.5 13.6 13.8	red 17.1608421726223 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0	17.7936502894979 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0	0 0 0 0 0 0 0 0 0 0 0	0 0 0 0 0 0 0 0 0 0
######################################	true 5 7 7.2 8.4 8.5 10.4 10.5 11.5 11.8 11.9 12 13.1 13.2 13.5 13.6 13.8 14.3	red 17.1608421726223 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0	17.7936502894979 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0	0 0 0 0 0 0 0 0 0 0 0 0	0 0 0 0 0 0 0 0 0 0 0
######################################	true 5 7 7.2 8.4 8.5 10.4 10.5 11.5 11.8 11.9 12 13.1 13.2 13.5 13.6 13.8 14.3	red 17.1608421726223 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0	17.7936502894979 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0	0 0 0 0 0 0 0 0 0 0 0 0 0	
######################################	true 5 7 7.2 8.4 8.5 10.4 10.5 11.5 11.8 11.9 12 13.1 13.2 13.5 13.6 13.8 14.3	red 17.1608421726223 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0	17.7936502894979 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0	0 0 0 0 0 0 0 0 0 0 0 0	0 0 0 0 0 0 0 0 0 0 0

##	15.2	0	0	0	0
##	15.3	0	0	0	0
##	16.1	0	0	0	0
##	16.2	0	0	0	0
##	16.8	0	0	0	0
##	17.1	0	0	0	0
##	17.5	0	0	0	0
##	17.6	0	0	0	0
##	17.8	0	1	0	0
##	18.1	0	0	0	0
##	18.2	0	0	0	0
##	18.5	0	0	0	0
##	18.6	0	0	0	0
##	18.7	0	0	0	0
##	19.2	0	0	0	0
##	19.3	0	0	0	0
##	19.4	0	0	0	0
##	19.6	0	0	0	0
##	19.8	0	0	0	0
##	19.9	0	0	0	0
##	20	0	0	0	0
##	20.3	0	0	0	0
##	20.5	0	0	0	0
##	20.6	0	0	0	0
##	21.4	0	0	0	0
##	21.6	0	0	0	0
##	21.7	0	0	0	0
##	21.9	0	0	0	0
##	22.5	0	0	0	0
##	22.6	0	0	1	0
##	22.7	0	0	0	0
##	23	0	0	0	0
##	23.1	0	0	0	0
##	23.4	0	0	0	0
##	23.6				
##	23.7	0	0	0	0
				0	0
##	23.8	0	0	0	0
##	23.9	0	0	0	0
##	24.5	0	0	0	0
##	24.7	0	0	0	0
##	25	0	0	0	0
##	26.4	0	0	0	0
##	26.7	0	0	0	0
##	27.1	0	0	0	0
##	27.5	0	0	0	1
##	27.9	0	0	0	0
##	28.6	0	0	0	0
##	29.6	0	0	0	0
##	29.8	0	0	0	0
##	30.8	0	0	0	0
##	31.6	0	0	0	0
##	33.2	0	0	0	0
##	33.3	0	0	0	0
##	33.4	0	0	0	0
	·-	-	-	-	•

##	34.7	0	0	0	0
##	36	0	0	0	0
##	36.2	0	0	0	0
##	36.5	0	0	0	0
##	37.3	0	0	0	0
##	41.3	0	0	0	0
##	43.1	0	0	0	0
##	46	0	0	0	0
##	50	1	0	0	0
##	pr				
##			17.9059928687112		
##	5	0	0	0	0
##	7	0	0	0	0
##	7.2	0	0	0	0
##	8.4	0	0	0	0
## ##	8.5 10.4	0	0	0	0
##	10.4	0	0	0	0
##	11.5	0	0	0	0
##	11.8	0	0	0	0
##	11.9	0	0	0	0
##	12	0	0	0	0
##	13.1	0	0	0	0
##	13.2	0	0	0	0
##	13.5	0	0	0	0
##	13.6	0	0	0	0
##	13.8	0	0	0	0
##	14.3	0	0	0	0
##	14.4	0	0	0	0
##	14.5	0	0	0	0
##	14.6	0	0	0	0
##	15.2	0	0	0	0
##	15.3	0	0	0	0
##	16.1 16.2	0	0	0	0
## ##	16.2	0	0	0	0
##	17.1	0	0	0	0
##	17.5	1	0	0	0
##	17.6	0	0	0	0
##	17.8	0	0	0	0
##	18.1	0	0	0	1
##	18.2	0	0	1	0
##	18.5	0	0	0	0
##	18.6	0	0	0	0
##	18.7	0	0	0	0
##	19.2	0	0	0	0
##	19.3	0	0	0	0
##	19.4	0	0	0	0
##	19.6	0	0	0	0
##	19.8	0	0	0	0
## ##	19.9 20	0	0	0	0
##	20.3	0	0	0	0
##	20.5	0	0	0	0
πĦ	20.0	U	U	U	O

##	20.6	0	1	0	0
##	21.4	0	0	0	0
##	21.6	0	0	0	0
##	21.7	0	0	0	0
##	21.9	0	0	0	0
##	22.5	0	0	0	0
##	22.6	0	0	0	0
##	22.7	0	0	0	0
##	23	0	0	0	0
##	23.1	0	0	0	0
##	23.4	0	0	0	0
##	23.6	0	0	0	0
##	23.7	0	0	0	0
##	23.8	0	0	0	0
##	23.9	0	0	0	0
##	24.5	0	0	0	0
##	24.7	0	0	0	0
##	25	0	0	0	0
##	26.4	0	0	0	0
##	26.7	0	0	0	0
##	27.1	0	0	0	0
##	27.5	0	0	0	0
##	27.9	0	0	0	0
##	28.6	0	0	0	0
##	29.6	0	0	0	0
##	29.8	0	0	0	0
##	30.8	0	0	0	0
##	31.6	0	0	0	0
##	33.2	0	0	0	0
##	33.3	0	0	0	0
##	33.4	0	0	0	0
##	34.7	0	0	0	0
##	36	0	0	0	0
##	36.2	0	0	0	0
##	36.5	0	0	0	0
##	37.3	0	0	0	0
##	41.3	0	0	0	0
##	43.1	0	0	0	0
##	46	0	0	0	0
##	50	0	0	0	0
##	pred	700404407475	10 0700015500050	10 1015100070707	10 5707000550010
			18.3792215500358		
## ##	5 7	0	0	0	0
##	7 7.2	0	0	0	0
##	8.4				0
##	8.5	0	0	0	0
##	8.5 10.4	0	0	0	0
##	10.4	0	0	0	0
##	10.5	0	0	0	0
##	11.5	0	0	0	0
##	11.0	0	0	0	0
##	12	0	0	0	0
##	13.1	0	0	0	0
##	13.1	U	U	U	U

##	13.2	0	0	0	0
##	13.5	0	0	0	0
##	13.6	0	0	0	0
##	13.8	0	0	0	0
##	14.3	0	0	0	0
##	14.4	0	0	0	0
##	14.5	0	0	0	0
##	14.6	0	0	0	0
##	15.2	1	0	0	0
##	15.3	0	0	1	0
##	16.1	0	0	0	0
##	16.2	0	0	0	0
##	16.8	0	0	0	0
##	17.1	0	0	0	0
##	17.5	0	0	0	0
##	17.6	0	0	0	0
##	17.8	0	0	0	0
##	18.1	0	0	0	0
##	18.2	0	0	0	0
##	18.5	0	1	0	0
##	18.6	0	0	0	0
##	18.7	0	0	0	0
##	19.2	0	0	0	0
##	19.3	0	0	0	0
##	19.4 19.6	0	0	0	0
## ##	19.8	0	0	0	0
##	19.9	0	0	0	0
##	20	0	0	0	0
##	20.3	0	0	0	0
##	20.5	0	0	0	0
##	20.6	0	0	0	1
##	21.4	0	0	0	0
##	21.6	0	0	0	0
##	21.7	0	0	0	0
##	21.9	0	0	0	0
##	22.5	0	0	0	0
##	22.6	0	0	0	0
##	22.7	0	0	0	0
##	23	0	0	0	0
##	23.1	0	0	0	0
##	23.4	0	0	0	0
##	23.6	0	0	0	0
##	23.7	0	0	0	0
##	23.8	0	0	0	0
##	23.9	0	0	0	0
##	24.5	0	0	0	0
## ##	24.7 25	0	0	0	0
##	26.4	0	0	0	0
##	26.7	0	0	0	0
##	27.1	0	0	0	0
##	27.5	0	0	0	0
##	27.9	0	0	0	0
					-

##	28.6	0	0	0	0
##	29.6	0	0	0	0
##	29.8	0	0	0	0
##	30.8	0	0	0	0
##	31.6	0	0	0	0
##	33.2	0	0	0	0
##	33.3	0	0	0	0
##	33.4	0	0	0	0
##	34.7	0	0	0	0
##	36	0	0	0	0
##	36.2	0	0	0	0
##	36.5	0	0	0	0
##	37.3	0	0	0	0
##	41.3	0	0	0	0
##	43.1	0	0	0	0
##	46	0	0	0	0
##	50	0	0	0	0
##	p	ored			
##	true			18.8389126416156	
##	5	0	0	0	0
##	7	0	0	0	0
##	7.2	0	0	0	0
##	8.4	0	0	0	0
##	8.5	0	0	0	0
##	10.4	0	0	0	0
##	10.5	0	0	0	0
##	11.5	0	0	0	0
##	11.8	0	0	0	0
##	11.9 12	0	0	0	0
## ##	13.1	0	0	0	0
##	13.1	0	0	0	0
##	13.5	0	0	0	0
##	13.6	0	0	0	0
##	13.8	0	0	0	0
##	14.3	0	0	0	0
##	14.4	0	0	0	0
##	14.5	0	0	0	0
##	14.6	0	0	0	0
##	15.2	0	0	0	0
##	15.3	0	0	0	0
##	16.1	0	1	0	0
##	16.2	0	0	0	0
##	16.8	0	0	0	0
##	17.1	0	0	0	0
##	17.5	0	0	0	0
##	17.6	0	0	0	0
##	17.8	0	0	0	0
##	18.1	0	0	0	0
##	18.2	0	0	0	0
##	18.5	0	0	0	0
##	18.6	0	0	0	0
##	18.7	0	0	0	0
##	19.2	0	0	0	0

шш	10.0	0	0	^	0
##	19.3	0	0	0	0
##	19.4	0	0	0	0
##	19.6	0	0	0	0
##	19.8 19.9	0	0	0	0
##		0	0	0	0
##	20	0	0	0	0
##	20.3	0	0	0	1
##	20.5	0	0	0	0
##	20.6	0	0	1	0
##	21.4	1	0	0	0
##	21.6	0	0	0	0
##	21.7	0	0	0	0
##	21.9	0	0	0	0
##	22.5	0	0	0	0
##	22.6	0	0	0	0
##	22.7	0	0	0	0
##	23	0	0	0	0
##	23.1	0	0	0	0
##	23.4	0	0	0	0
##	23.6	0	0	0	0
##	23.7	0	0	0	0
##	23.8	0	0	0	0
##	23.9	0	0	0	0
##	24.5	0	0	0	0
##	24.7	0	0	0	0
##	25	0	0	0	0
##	26.4	0	0	0	0
##	26.7	0	0	0	0
##	27.1	0	0	0	0
##	27.5	0	0	0	0
##	27.9	0	0	0	0
##	28.6	0	0	0	0
##	29.6	0	0	0	0
##	29.8	0	0	0	0
##	30.8	0	0	0	0
##	31.6	0	0	0	0
##	33.2	0	0	0	0
##	33.3	0	0	0	0
##	33.4	0	0	0	0
##	34.7	0	0	0	0
##	36	0	0	0	0
##	36.2	0	0	0	0
##	36.5	0	0	0	0
##	37.3	0	0	0	0
##	41.3	0	0	0	0
##	43.1	0	0	0	0
##	46	0	0	0	0
##	50	0	0	0	0
##	pred				
			19.3039735499474		
##	5	0	0	0	0
##	7	0	0	0	0
##	7.2	0	0	0	0
##	8.4	0	0	0	0

##	8.5	0	0	0	0
##	10.4	0	0	0	0
##	10.5	0	0	0	0
##	11.5	0	0	0	0
##	11.8	0	0		
				0	0
##	11.9	0	0	0	0
##	12	0	0	0	0
##	13.1	0	0	0	0
##	13.2	0	0	0	0
##	13.5	0	0	0	0
##	13.6	0	0	0	0
##	13.8	0	0	0	0
##	14.3	0	0	0	0
##	14.4	0	0	0	0
##	14.5	0	0	0	0
##	14.6	0	0	0	0
##	15.2	0	0	0	0
##	15.3	0	0	0	0
##	16.1	0	0	0	0
##	16.2	0	0	0	0
##	16.8	0	0	0	0
##	17.1	0	0	0	0
##	17.5	0	0	0	0
##	17.6	0	0	0	0
##	17.8	0	0	0	0
##	18.1	0	0	0	0
##	18.2	0	0	0	0
##	18.5	0	0	0	0
##	18.6	0	1	0	0
##	18.7	0	0	0	0
##	19.2	0	0	0	0
##	19.3	0	0	0	0
##	19.4	0	0	0	0
##	19.6	0	0	0	1
##	19.8	0	0	0	0
##	19.9	0	0	1	0
##	20	0	0	0	0
##	20.3	0	0	0	0
##	20.5	1	0	0	0
##	20.6	0	0	0	0
##	21.4	0	0	0	0
##	21.6	0	0	0	0
##	21.7	0	0	0	0
##	21.9	0	0	0	0
##	22.5	0	0	0	0
##	22.6	0	0	0	0
##	22.7	0	0	0	0
##	23	0	0	0	0
##	23.1	0	0	0	0
##	23.4	0	0	0	0
##	23.6	0	0	0	0
##	23.7	0	0	0	0
##	23.8	0	0	0	0
##	23.9	0	0	0	0

##	24.5	0	0	0	0
##	24.7	0	0	0	0
##	25	0	0	0	0
##	26.4	0	0	0	0
##	26.7	0	0	0	0
##	27.1	0	0	0	0
##	27.5	0	0	0	0
##	27.9	0	0	0	0
##	28.6	0	0	0	0
##	29.6	0	0	0	0
##	29.8	0	0	0	0
##	30.8	0	0	0	0
##	31.6	0	0	0	
##	33.2	0	0	0	
##	33.3	0	0	0	
##	33.4	0	0	0	
##	34.7	0	0	0	
##	36	0	0	0	
##	36.2	0	0	0	
##	36.5	0	0	0	
##	37.3	0	0	0	
##	41.3	0	0	0	
##	43.1	0	0	0	
##	46	0	0	0	
##	50	0	0	0	0
## ##	pred true 19.53	61670102022	19.817306372635	10 0/02227020/56	20 07/6/57215119
##	5 5	01070193023	0	19.9493237929430	0
##	7		0	0	0
	1	()	· ·		
##		0			
## ##	7.2	0	0	0	0
	7.2 8.4	0	0	0	
##	7.2	0	0	0 0	0
## ##	7.2 8.4 8.5	0 0 0	0 0 0	0 0 0	0 0 0
## ## ##	7.2 8.4 8.5 10.4	0 0 0	0 0 0 0	0 0 0 0	0 0 0 0
## ## ## ##	7.2 8.4 8.5 10.4 10.5	0 0 0 0	0 0 0 0	0 0 0 0	0 0 0 0
## ## ## ##	7.2 8.4 8.5 10.4 10.5 11.5	0 0 0 0 0	0 0 0 0 0	0 0 0 0 0	0 0 0 0 0
## ## ## ## ## ##	7.2 8.4 8.5 10.4 10.5 11.5 11.8 11.9	0 0 0 0 0 0 0	0 0 0 0 0 0 0	0 0 0 0 0 0	0 0 0 0 0 0 0
## ## ## ## ## ##	7.2 8.4 8.5 10.4 10.5 11.5 11.8 11.9 12	0 0 0 0 0 0 0	0 0 0 0 0 0 0	0 0 0 0 0 0 0	0 0 0 0 0 0 0
## ## ## ## ## ##	7.2 8.4 8.5 10.4 10.5 11.5 11.8 11.9 12 13.1 13.2	0 0 0 0 0 0 0 0	0 0 0 0 0 0 0 0	0 0 0 0 0 0 0	0 0 0 0 0 0 0 0
## ## ## ## ## ## ##	7.2 8.4 8.5 10.4 10.5 11.5 11.8 11.9 12 13.1 13.2 13.5	0 0 0 0 0 0 0 0	0 0 0 0 0 0 0 0	0 0 0 0 0 0 0 0	0 0 0 0 0 0 0 0
## ## ## ## ## ## ##	7.2 8.4 8.5 10.4 10.5 11.5 11.8 11.9 12 13.1 13.2 13.5 13.6	0 0 0 0 0 0 0 0 0	0 0 0 0 0 0 0 0 0	0 0 0 0 0 0 0 0	0 0 0 0 0 0 0 0 0
## ## ## ## ## ## ## ##	7.2 8.4 8.5 10.4 10.5 11.5 11.8 11.9 12 13.1 13.2 13.5 13.6 13.8	0 0 0 0 0 0 0 0 0	0 0 0 0 0 0 0 0 0	0 0 0 0 0 0 0 0	0 0 0 0 0 0 0 0 0
######################################	7.2 8.4 8.5 10.4 10.5 11.5 11.8 11.9 12 13.1 13.2 13.5 13.6 13.8 14.3	0 0 0 0 0 0 0 0 0 0	0 0 0 0 0 0 0 0 0 0		0 0 0 0 0 0 0 0 0
## ## ## ## ## ## ## ##	7.2 8.4 8.5 10.4 10.5 11.5 11.8 11.9 12 13.1 13.2 13.5 13.6 13.8 14.3		0 0 0 0 0 0 0 0 0 0		0 0 0 0 0 0 0 0 0 0
## ## ## ## ## ## ## ## ##	7.2 8.4 8.5 10.4 10.5 11.5 11.8 11.9 12 13.1 13.2 13.5 13.6 13.8 14.3 14.4	0 0 0 0 0 0 0 0 0 0	0 0 0 0 0 0 0 0 0 0 0		0 0 0 0 0 0 0 0 0 0
## ## ## ## ## ## ## ## ##	7.2 8.4 8.5 10.4 10.5 11.5 11.8 11.9 12 13.1 13.2 13.5 13.6 13.8 14.3 14.4 14.5 14.6		0 0 0 0 0 0 0 0 0 0 0		0 0 0 0 0 0 0 0 0 0 0
## ## ## ## ## ## ## ## ##	7.2 8.4 8.5 10.4 10.5 11.5 11.8 11.9 12 13.1 13.2 13.5 13.6 13.8 14.3 14.4 14.5 14.6 15.2		0 0 0 0 0 0 0 0 0 0 0 0		0 0 0 0 0 0 0 0 0 0 0 0
## ## ## ## ## ## ## ## ## ##	7.2 8.4 8.5 10.4 10.5 11.5 11.8 11.9 12 13.1 13.2 13.5 13.6 13.8 14.3 14.4 14.5 14.6 15.2 15.3				
## ## ## ## ## ## ## ## ## ##	7.2 8.4 8.5 10.4 10.5 11.5 11.8 11.9 12 13.1 13.2 13.5 13.6 13.8 14.3 14.4 14.5 14.6 15.2 15.3 16.1				0 0 0 0 0 0 0 0 0 0 0 0
## ## ## ## ## ## ## ## ## ## ##	7.2 8.4 8.5 10.4 10.5 11.5 11.8 11.9 12 13.1 13.2 13.5 13.6 13.8 14.3 14.4 14.5 14.6 15.2 15.3 16.1 16.2				
## ## ## ## ## ## ## ## ## ## ## ##	7.2 8.4 8.5 10.4 10.5 11.5 11.8 11.9 12 13.1 13.2 13.5 13.6 13.8 14.3 14.4 14.5 14.6 15.2 15.3 16.1 16.2 16.8				0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0
## ## ## ## ## ## ## ## ## ## ##	7.2 8.4 8.5 10.4 10.5 11.5 11.8 11.9 12 13.1 13.2 13.5 13.6 13.8 14.3 14.4 14.5 14.6 15.2 15.3 16.1 16.2				

##	17.6	0	0	0	0
##	17.8	0	0	0	0
##	18.1	0	0	0	0
##	18.2	0	0	0	0
##	18.5	0	0	0	0
##	18.6	0	0	0	0
##	18.7	0	0	1	0
##	19.2	0	0	0	0
##	19.3	0	0	0	0
##	19.4	1	0	0	0
##	19.6	0	0	0	0
##	19.8	0	0	0	0
##	19.9	0	0	0	0
##	20	0	0	0	0
##	20.3	0	0	0	0
##	20.5	0	0	0	0
##	20.6	0	0	0	0
##	21.4	0	0	0	0
##	21.6	0	0	0	0
##	21.7	0	0	0	0
##	21.9	0	0	0	0
##	22.5	0	0	0	0
##	22.6	0	0	0	0
##	22.7	0	0	0	0
##	23	0	0	0	0
##	23.1	0	0	0	0
##	23.4	0	0	0	0
##	23.6	0	0	0	0
##	23.7	0	0	0	0
##	23.8	0	0	0	0
##	23.9	0	0	0	0
##	24.5	0	0	0	0
##	24.7	0	0	0	0
##	25	0	0	0	0
##	26.4	0	0	0	0
##	26.7	0	0	0	0
##	27.1	0	0	0	0
##	27.5	0	0	0	0
##	27.9	0	0	0	0
##	28.6	0	0	0	0
##	29.6	0	0	0	0
##	29.8	0	0	0	0
##	30.8	0	0	0	0
##	31.6	0	0	0	0
##	33.2	0	0	0	0
##	33.3	0	0	0	0
##	33.4	0	0	0	0
##	34.7	0	0	0	0
##	36	0	0	0	0
##	36.2	0	0	0	0
##	36.5	0	0	0	0
##	37.3	0	0	0	0
##	41.3	0	0	0	0
##	43.1	0	0	0	0

##	46	0	0	(
##	50	0	0	(0
##		pred	4 4		00 5001501001015
##	true		20.5458315045789		
##	5	0	0	0	0
##	7	0	0	0	0
##	7.2	0	0	0	0
##	8.4 8.5	0	0	0	0
## ##	10.4	0	0	0	0
##	10.4		0	0	0
##	11.5		0	0	0
##	11.8		0	0	0
##	11.9		0	0	0
##	12	0	0	0	0
##	13.1		0	0	0
##	13.2		0	0	0
##	13.5		0	0	0
##	13.6		0	0	0
##	13.8		0	0	0
##	14.3		0	0	0
##	14.4	0	0	0	0
##	14.5	0	0	0	0
##	14.6	0	0	0	0
##	15.2	0	0	0	0
##	15.3	0	0	0	0
##	16.1	0	0	0	0
##	16.2	0	0	0	0
##	16.8	0	0	0	0
##	17.1		0	0	0
##	17.5		0	0	0
##	17.6		0	0	0
##	17.8		0	0	0
##	18.1		0	0	0
##	18.2		0	0	0
##	18.5		0	0	0
##	18.6	_	0	0	0
## ##	18.7 19.2	0	0	0	0
##	19.2		0	0	0
##	19.4		0	0	0
##	19.6		0	0	0
##	19.8		0	0	0
##	19.9		0	0	0
##	20	0	0	0	0
##	20.3		0	0	1
##	20.5		0	0	0
##	20.6		0	0	0
##	21.4		0	0	0
##	21.6		0	0	0
##	21.7		0	1	0
##	21.9		0	0	0
##	22.5		0	0	0
##	22.6	0	0	0	0

	00.7	•	•	•	•
##	22.7	0	0	0	0
##	23	1	0	0	0
##	23.1	0	0	0	0
##	23.4	0	0	0	0
##	23.6	0	0	0	0
##	23.7	0	0	0	0
##	23.8	0	0	0	0
##	23.9	0	0	0	0
##	24.5	0	0	0	0
##	24.7	0	0	0	0
##	25	0	0	0	0
##	26.4	0	0	0	0
##	26.7	0	0	0	0
##	27.1	0	0	0	0
##	27.5	0	0	0	0
##	27.9	0	0	0	0
##	28.6	0	0	0	0
##	29.6	0	0	0	0
##	29.8	0	0	0	0
##	30.8	0	0	0	0
##	31.6	0	0	0	0
##	33.2	0	0	0	0
	33.3				
##		0	0	0	0
##	33.4	0	0	0	0
##	34.7	0	0	0	0
##	36	0	0	0	0
##	36.2	0	0	0	0
##	36.5	0	0	0	0
##	37.3	0	0	0	0
##	41.3	0	0	0	0
##	43.1	0	0	0	0
##	46	0	0	0	0
##	50	0	1	0	0
##		pred	04 4044500050400	01 015550001001	04 000440000700
##	true		21.4611536252493		
##	5	0	0	0	0
##	7	0	0	0	0
##	7.2	0	0	0	0
##	8.4	0	0	0	0
##	8.5	0	0	0	0
##	10.4		0	0	0
##	10.5	0	0	0	0
##	11.5	0	0	0	0
##	11.8	0	0	0	0
##	11.9	0	1	0	0
##	12	0	0	0	0
##	13.1	0	0	0	0
##	13.2	0	0	0	0
##	13.5	0	0	0	0
##	13.6	0	0	0	0
##	13.8	0	0	0	0
##	14.3	0	0	0	0
##	14.4	0	0	0	0
##	14.5	0	0	0	0

##	14.6	0	0	0	0
##	15.2	0	0	0	0
##	15.3	0	0	0	0
##	16.1	0	0	0	0
##	16.2	0	0	0	0
##	16.8	0	0	0	0
##	17.1	0	0	0	0
##	17.5	0	0	0	0
##	17.6	0	0	0	0
##	17.8	0	0	0	0
##	18.1	0	0	0	0
##	18.2	0	0	0	0
##	18.5	0	0	0	0
##	18.6	0	0	0	0
##	18.7	0	0	0	0
##	19.2	0	0	0	0
##	19.3	0	0	0	1
##	19.4	0	0	0	0
##	19.6	0	0	0	0
##	19.8	0	0	1	0
##	19.9	0	0	0	0
##	20	0	0	0	0
##	20.3	0	0	0	0
##	20.5	0	0	0	0
##	20.6	0	0	0	0
##	21.4	0	0	0	0
##	21.6	0	0	0	0
##	21.7	0	0	0	0
##	21.9	0	0	0	0
##	22.5	0	0	0	0
##	22.6	0	0	0	0
##	22.7	0	0	0	0
##	23	0	0	0	0
##	23.1	0	0	0	0
##	23.4	0	0	0	0
##	23.6	0	0	0	0
##	23.7	0	0	0	0
##	23.8	0	0	0	0
##	23.9	0	0	0	0
##	24.5	1	0	0	0
##	24.7	0	0	0	0
##	25	0	0	0	0
##	26.4	0	0	0	0
##	26.7	0	0	0	0
##	27.1	0	0	0	0
##	27.5	0	0	0	0
##	27.9	0	0	0	0
##	28.6	0	0	0	0
##	29.6	0	0	0	0
##	29.8	0	0	0	0
##	30.8	0	0	0	0
##	31.6	0	0	0	0
##	33.2 33.3	0	0	0	0
##	JJ.J	U	U	V	U

##	33.4	0	0	0	0
##	34.7	0	0	0	0
##	36	0	0	0	0
##	36.2	0	0	0	0
##	36.5	0	0	0	0
##	37.3	0	0	0	0
##	41.3	0	0	0	0
##	43.1	0	0	0	0
##	46	0	0	0	0
## ##	50	0	0	0	0
##		ored	22.2763520968835	23 3313833480020	23 //133050051208
##	5	0	0	0	0
##	7	0	0	0	0
##	7.2	0	0	0	0
##	8.4	0	0	0	0
##	8.5	0	0	0	0
##	10.4	0	0	0	0
##	10.5	0	0	0	0
##	11.5	0	0	0	0
##	11.8	0	0	0	0
##	11.9	0	0	0	0
##	12	0	0	0	0
##	13.1	0	0	0	0
##	13.2	0	0	0	0
##	13.5	0	0	0	0
##	13.6	0	0	0	0
##	13.8	0	0	0	0
##	14.3	0	0	0	0
##	14.4	0	0	0	0
##	14.5	0	0	0	0
##	14.6	0	0	0	0
## ##	15.2 15.3	0	0	0	0
##	16.1	0	0	0	0
##	16.1	0	0	0	0
##	16.8	0	0	0	0
##	17.1	0	0	0	0
##	17.5	0	0	0	0
##	17.6	0	0	0	0
##	17.8	0	0	0	0
##	18.1	0	0	0	0
##	18.2	0	0	0	0
##	18.5	0	0	0	0
##	18.6	0	0	0	0
##	18.7	0	0	0	0
##	19.2	1	0	0	0
##	19.3	0	0	0	0
##	19.4	0	0	0	0
##	19.6	0	0	0	0
##	19.8	0	0	0	0
##	19.9	0	0	0	0
##	20	0	0	0	0
##	20.3	0	0	0	0

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##	20.5	0	0	0	0
##	20.6	0	0	0	0
##	21.4	0	0	0	1
##	21.6	0	0	0	0
##	21.7	0	0	0	0
##	21.9	0	0	0	0
##	22.5	0	0	0	0
##	22.6	0	0	0	0
##	22.7	0	1	0	0
##	23	0	0	0	0
##	23.1	0	0	0	0
##	23.4	0	0	0	0
##	23.6	0	0	0	0
##	23.7	0	0	0	0
##	23.8	0	0	0	0
##	23.9	0	0	0	0
##	24.5	0	0	0	0
##	24.7	0	0	0	0
##	25	0	0	0	0
##	26.4	0	0	0	0
##	26.7	0	0	0	0
##	27.1	0	0	0	0
##	27.5	0	0	0	0
##	27.9	0	0	0	0
##	28.6	0	0	0	0
##	29.6	0	0	1	0
##	29.8	0	0	0	0
##	30.8	0	0	0	0
##	31.6	0	0	0	0
##	33.2	0	0	0	0
##	33.3	0	0	0	0
##	33.4	0	0	0	0
##	34.7	0	0	0	0
##	36	0	0	0	0
##	36.2	0	0	0	0
##	36.5	0	0	0	0
##	37.3	0	0	0	0
##	41.3	0	0	0	0
##	43.1	0	0	0	0
##	46	0	0	0	0
##	50	0	0	0	0
##	pr		00 770040000000	00 005707000004	04 0400400444550
## ##	true 2	3.7357888799305	23.7700409928669	23.825/3/3008024	24.2166109144559
##	5 7	0	0	0	
##	7 7.2	0	0	0	0
## ##	8.4 8.5	0	0	0	0
##	8.5 10.4	0	0	0	0
	10.4				
##	10.5 11.5	0	0	0	0
## ##	11.5	0	0	0	0
##	11.8	0	0	0	0
##	12	0	0	0	0

##	13.1	0	0	0	0
##	13.2	0	0	0	0
##	13.5	0	0	0	0
	13.6				
##		0	0	0	0
##	13.8	0	0	0	0
##	14.3	0	0	0	0
##	14.4	0	0	0	0
##	14.5	0	0	0	0
##	14.6	0	0	0	0
##	15.2	0	0	0	0
##	15.3	0	0	0	0
##	16.1	0	0	0	0
##	16.2	0	0	0	0
##	16.8	0	0	0	0
##	17.1	0	0	0	0
##	17.5	0	0	0	0
##	17.6	0	0	0	0
##	17.8	0	0	0	0
##	18.1	0	0	0	0
##	18.2	0	0	0	0
##	18.5	0	0	0	0
##	18.6	0	0	0	0
##	18.7	0	0	0	0
##	19.2	0	0	0	0
##	19.3	0	0	0	0
##	19.4	0	0	0	0
##	19.6	0	0	0	0
##	19.8	0	0	0	0
##	19.9	0	0	0	0
##	20	0	0	0	0
##	20.3	0	0	0	0
##	20.5	0	0	0	0
##	20.6	0	0	0	0
##	21.4	0	0	0	0
##	21.6	0	1	0	0
##	21.7	0	0	0	0
##	21.9	0	0	0	0
##	22.5	0	0	0	0
##	22.6	0	0	0	0
##	22.7	0	0	0	0
##	23	0	0	1	0
##	23.1	0	0	0	0
##	23.4	0	0	0	0
##	23.6	0	0	0	0
##	23.7	0	0	0	0
##	23.8	0	0	0	1
##	23.9	0	0	0	0
##	24.5	0	0	0	0
##	24.7	0	0	0	0
##	25	0	0	0	0
##	26.4	0	0	0	0
##	26.7	0	0	0	0
##	27.1	0	0	0	0
##	27.5	0	0	0	0
π·1 T	21.0	•	•	•	J

			_	_	_
##	27.9	0	0	0	0
##	28.6	0	0	0	0
##	29.6	0	0	0	0
##	29.8	1	0	0	0
##	30.8	0	0	0	0
##	31.6	0	0	0	0
##	33.2	0	0	0	0
##	33.3	0	0	0	0
##	33.4	0	0	0	0
##	34.7	0	0	0	0
##	36	0	0	0	0
##	36.2	0	0	0	0
##	36.5	0	0	0	0
##	37.3	0	0	0	0
##	41.3	0	0		
				0	0
##	43.1	0	0	0	0
##	46	0	0	0	0
##	50	0	0	0	0
##	-	red			
##			24.6860393937465		
##	5	0	0	0	0
##	7	0	0	0	0
##	7.2	0	0	0	0
##	8.4	0	0	0	0
##	8.5	0	0	0	0
##	10.4	0	0	0	0
##	10.5	0	0	0	0
##	11.5	0	0	0	0
##	11.8	0	0	0	0
##	11.9	0	0	0	0
##	12	0	0	0	0
##	13.1	0	0	0	0
##	13.2	0	0	0	0
##	13.5	0	0	0	0
##	13.6	0	0	0	0
##	13.8	0	0	0	0
##	14.3	0	0	0	0
	14.3				
##		0	0	0	0
##	14.5	0	0	0	0
##	14.6	0	0	0	0
##	15.2	0	0	0	0
##	15.3	0	0	0	0
##	16.1	0	0	0	0
##	16.2	0	0	0	0
##	16.8	0	0	0	0
##	17.1	0	0	0	0
##	17.5	0	0	0	0
##	17.6	0	0	0	0
##	17.8	0	0	0	0
##	18.1	0	0	0	0
##	18.2	0	0	0	0
##	18.5	0	0	0	0
##	18.6	0	0	0	0
##	18.7	0	0	0	0

##	19.2	0	0	0	0
##	19.3	0	0	0	0
##	19.4	0	0	0	0
##	19.6	0	0	0	0
##	19.8	0	0	0	0
##	19.9	0	0	0	0
##	20	0	0	0	0
##	20.3	0	0	0	0
##	20.5	0	0	0	0
##	20.6	0	0	0	0
##	21.4	0	0	0	0
##	21.6 21.7	0	0	0	0
##	21.7	0	0	0	0
##		0	0	0	0
##	22.5	0	0	0	0
##	22.6	0	0	0	0
##	22.7 23	0	0	0	0
## ##	23.1	0	0	0	0
##	23.1	1	0	0	0
##	23.4	0	0	0	0
##	23.7	0	0	0	0
##	23.7	0	0	0	0
##	23.9	0	0	0	1
##	24.5	0	0	0	0
##	24.7	0	0	1	0
##	25	0	1	0	0
##	26.4	0	0	0	0
##	26.7	0	0	0	0
##	27.1	0	0	0	0
##	27.5	0	0	0	0
##	27.9	0	0	0	0
##	28.6	0	0	0	0
##	29.6	0	0	0	0
##	29.8	0	0	0	0
##	30.8	0	0	0	0
##	31.6	0	0	0	0
##	33.2	0	0	0	0
##	33.3	0	0	0	0
##	33.4	0	0	0	0
##	34.7	0	0	0	0
##	36	0	0	0	0
##	36.2	0	0	0	0
##	36.5	0	0	0	0
##	37.3	0	0	0	0
##	41.3	0	0	0	0
##	43.1	0	0	0	0
##	46	0	0	0	0
##	50	0	0	0	0
##	pred		06 0500000010001	06 0700544040500	00 000000000000000000000000000000000000
##				26.3782541042592	
## ##	5 7	0	0	0	0
##	7 7.2	0	0	0	0
##	1.4	U	U	0	0

##	8.4	0	0	0	0
##	8.5	0	0	0	0
##	10.4	0	0	0	0
##	10.5	0	0	0	0
##	11.5	0	0	0	0
##	11.8	0	0	0	0
##	11.9	0	0	0	0
##	12	0	0	0	0
##	13.1	0	0	0	0
##	13.2	0	0	0	0
##	13.5	0	0	0	0
##	13.6	0	0	0	0
##	13.8	0	0	0	0
##	14.3	0	0	0	0
##	14.4	0	0	0	0
##	14.5	0	0	0	0
##	14.6	0	0	0	0
##	15.2	0	0	0	0
##	15.3	0	0	0	0
##	16.1	0	0	0	0
##	16.2	0	0	0	0
##	16.8	0	0	0	0
##	17.1	0	0	0	0
##	17.5	0	0	0	0
##	17.6	0	0	0	0
##	17.8	0	0	0	0
##	18.1	0	0	0	0
##	18.2	0	0	0	0
##	18.5	0	0	0	0
##	18.6	0	0	0	0
##	18.7	0	0	0	0
##	19.2	0	0	0	0
##	19.3	0	0	0	0
##	19.4	0	0	0	0
##	19.6	0	0	0	0
##	19.8	0	0	0	0
##	19.9	0	0	0	0
##	20	0	0	0	0
##	20.3	0	0	0	0
##	20.5	0	0	0	0
##	20.6 21.4	0	0	0	0
## ##	21.4	0	0	0	0
##	21.7	0	0	0	0
##	21.9	0	0	0	0
##	22.5	0	0	0	0
##	22.6	0	0	0	0
##	22.7	0	0	0	0
##	23	0	0	1	0
##	23.1	1	0	0	0
##	23.4	0	0	0	0
##	23.6	0	0	0	0
##	23.7	0	0	0	0
##	23.8	0	0	0	0

шш	00 0	^	0	^	^
##	23.9	0	0	0	0
##	24.5	0	0	0	0
##	24.7	0	0	0	0
##	25	0	0	0	0
##	26.4	0	0	0	0
##	26.7	0	0	0	0
##	27.1	0	1	0	0
##	27.5	0	0	0	0
##	27.9	0	0	0	0
##	28.6	0	0	0	0
##	29.6	0	0	0	0
##	29.8	0	0	0	0
##	30.8	0	0	0	0
##	31.6	0	0	0	0
##	33.2	0	0	0	0
##	33.3	0	0	0	0
##	33.4	0	0	0	0
##	34.7	0	0	0	0
##	36	0	0	0	0
##	36.2	0	0	0	0
##	36.5	0	0	0	0
##	37.3	0	0	0	0
##	41.3	0	0	0	0
##	43.1	0	0	0	0
##	46	0	0	0	0
##	50	0	0	0	1
##	τ	ored			
	Г				
##	true	27.6503088346345		27.9548745817116	27.9608895401666
	true 5		0	0	27.9608895401666 0
##	true 5 7	27.6503088346345			
## ##	true 5	27.6503088346345 0	0	0	0
## ## ##	true 5 7 7.2 8.4	27.6503088346345 0 0	0	0	0
## ## ## ##	true 5 7 7.2 8.4 8.5	27.6503088346345 0 0 0	0 0 0	0 0 0	0 0 0
## ## ## ##	true 5 7 7.2 8.4 8.5 10.4	27.6503088346345 0 0 0 0	0 0 0	0 0 0	0 0 0 0
## ## ## ## ##	true 5 7 7.2 8.4 8.5 10.4 10.5	27.6503088346345 0 0 0 0 0	0 0 0 0	0 0 0 0	0 0 0 0
## ## ## ## ##	true 5 7 7.2 8.4 8.5 10.4 10.5 11.5	27.6503088346345 0 0 0 0 0 0	0 0 0 0 0 0	0 0 0 0 0	0 0 0 0 0 0
## ## ## ## ## ##	true 5 7 7.2 8.4 8.5 10.4 10.5 11.5 11.8	27.6503088346345 0 0 0 0 0 0 0 0	0 0 0 0 0 0 0	0 0 0 0 0 0 0	0 0 0 0 0 0 0
## ## ## ## ## ## ##	true 5 7 7.2 8.4 8.5 10.4 10.5 11.5 11.8 11.9	27.6503088346345 0 0 0 0 0 0 0 0 0	0 0 0 0 0 0 0	0 0 0 0 0 0 0	0 0 0 0 0 0 0
## ## ## ## ## ##	true 5 7 7.2 8.4 8.5 10.4 10.5 11.5 11.8 11.9 12	27.6503088346345 0 0 0 0 0 0 0 0 0 0	0 0 0 0 0 0 0 0	0 0 0 0 0 0 0 0	0 0 0 0 0 0 0 0
## ## ## ## ## ## ##	true 5 7 7.2 8.4 8.5 10.4 10.5 11.5 11.8 11.9 12 13.1	27.6503088346345 0 0 0 0 0 0 0 0 0 0 0	0 0 0 0 0 0 0 0	0 0 0 0 0 0 0 0	0 0 0 0 0 0 0 0
## ## ## ## ## ## ##	true 5 7 7.2 8.4 8.5 10.4 10.5 11.5 11.9 12 13.1 13.2	27.6503088346345 0 0 0 0 0 0 0 0 0 0	0 0 0 0 0 0 0 0 0	0 0 0 0 0 0 0 0 0	0 0 0 0 0 0 0 0 0
## ## ## ## ## ## ## ## ## ## ## ## ##	true 5 7 7.2 8.4 8.5 10.4 10.5 11.8 11.9 12 13.1 13.2 13.5	27.6503088346345 0 0 0 0 0 0 0 0 0 0 0 0	0 0 0 0 0 0 0 0 0 0	0 0 0 0 0 0 0 0 0 0	0 0 0 0 0 0 0 0 0
## ## ## ## ## ## ## ## ## ## ## ## ##	true 5 7 7.2 8.4 8.5 10.4 10.5 11.8 11.9 12 13.1 13.2 13.5 13.6	27.6503088346345 0 0 0 0 0 0 0 0 0 0 0 0 0	0 0 0 0 0 0 0 0 0 0	0 0 0 0 0 0 0 0 0 0	0 0 0 0 0 0 0 0 0 0
## ## ## ## ## ## ## ## ## ## ## ## ##	true 5 7 7.2 8.4 8.5 10.4 10.5 11.5 11.8 11.9 12 13.1 13.2 13.5 13.6 13.8	27.6503088346345 0 0 0 0 0 0 0 0 0 0 0 0 0	0 0 0 0 0 0 0 0 0 0 0	0 0 0 0 0 0 0 0 0 0 0	0 0 0 0 0 0 0 0 0 0
######################################	true 5 7 7.2 8.4 8.5 10.4 10.5 11.5 11.8 11.9 12 13.1 13.2 13.5 13.6 13.8 14.3	27.6503088346345 0 0 0 0 0 0 0 0 0 0 0 0 0	0 0 0 0 0 0 0 0 0 0 0	0 0 0 0 0 0 0 0 0 0 0 0	
######################################	true 5 7 7.2 8.4 8.5 10.4 10.5 11.5 11.8 11.9 12 13.1 13.2 13.5 13.6 13.8 14.3 14.4	27.6503088346345 0 0 0 0 0 0 0 0 0 0 0 0 0	0 0 0 0 0 0 0 0 0 0 0 0 0	0 0 0 0 0 0 0 0 0 0 0 0 0	
######################################	true 5 7 7.2 8.4 8.5 10.4 10.5 11.5 11.8 11.9 12 13.1 13.2 13.5 13.6 13.8 14.3 14.4 14.5	27.6503088346345 0 0 0 0 0 0 0 0 0 0 0 0 0	0 0 0 0 0 0 0 0 0 0 0 0 0	0 0 0 0 0 0 0 0 0 0 0 0 0 0	0 0 0 0 0 0 0 0 0 0 0 0
######################################	true 5 7 7.2 8.4 8.5 10.4 10.5 11.5 11.8 11.9 12 13.1 13.2 13.5 13.6 13.8 14.3 14.4 14.5 14.6	27.6503088346345 0 0 0 0 0 0 0 0 0 0 0 0 0	0 0 0 0 0 0 0 0 0 0 0 0 0 0		
######################################	true 5 7 7.2 8.4 8.5 10.4 10.5 11.5 11.8 11.9 12 13.1 13.2 13.5 13.6 13.8 14.3 14.4 14.5 14.6 15.2	27.6503088346345 0 0 0 0 0 0 0 0 0 0 0 0 0	0 0 0 0 0 0 0 0 0 0 0 0 0 0 0		
##########################	true 5 7 7.2 8.4 8.5 10.4 10.5 11.5 11.8 11.9 12 13.1 13.2 13.5 13.6 13.8 14.3 14.4 14.5 14.6 15.2 15.3	27.6503088346345 0 0 0 0 0 0 0 0 0 0 0 0 0			
#########################	true 5 7 7.2 8.4 8.5 10.4 10.5 11.5 11.8 11.9 12 13.1 13.2 13.5 13.6 13.8 14.3 14.4 14.5 14.6 15.2 15.3 16.1	27.6503088346345 0 0 0 0 0 0 0 0 0 0 0 0 0			
############################	true 5 7 7.2 8.4 8.5 10.4 10.5 11.5 11.8 11.9 12 13.1 13.2 13.5 13.6 13.8 14.3 14.4 14.5 14.6 15.2 15.3 16.1 16.2	27.6503088346345 0 0 0 0 0 0 0 0 0 0 0 0 0			
###############################	true 5 7 7.2 8.4 8.5 10.4 10.5 11.5 11.8 11.9 12 13.1 13.2 13.5 13.6 13.8 14.3 14.4 14.5 14.6 15.2 15.3 16.1 16.2 16.8	27.6503088346345 0 0 0 0 0 0 0 0 0 0 0 0 0			
############################	true 5 7 7.2 8.4 8.5 10.4 10.5 11.5 11.8 11.9 12 13.1 13.2 13.5 13.6 13.8 14.3 14.4 14.5 14.6 15.2 15.3 16.1 16.2	27.6503088346345 0 0 0 0 0 0 0 0 0 0 0 0 0			

##	17.5	0	0	0	0
##	17.6	0	0	0	0
##	17.8	0	0	0	0
##	18.1	0		0	
			0		0
##	18.2	0	0	0	0
##	18.5	0	0	0	0
##	18.6	0	0	0	0
##	18.7	0	0	0	0
##	19.2	0	0	0	0
##	19.3	0	0	0	0
##	19.4	0	0	0	0
##	19.6	0	0	0	0
##	19.8	0	0	0	0
##	19.9	0	0	0	0
##	20	0	0	0	0
##	20.3	0	0	0	0
##	20.5	0	0	0	0
##	20.6	0	0	0	0
##	21.4	0	0	0	0
##	21.6	0	0	0	0
##	21.7	0	0	0	0
##	21.9	0	0	0	0
##	22.5	0	0	0	1
##	22.6	0	0	0	0
##	22.7	0	0	0	0
##	23	0	0	0	0
##	23.1	0	0	0	0
##	23.4	0	0	0	0
##	23.6	0	0	0	0
##	23.7	0	0	0	0
##	23.8	0	0	0	0
##	23.9	0	0	0	0
##	24.5	0	0	0	0
##	24.7	0	0	0	0
##	25	0	0	0	0
##	26.4	0	1	0	0
##	26.7	0	0	0	0
##	27.1	0	0	0	0
##	27.5	0	0	0	0
##	27.9	0	0	0	0
##	28.6	1	0	0	0
##	29.6	0	0	0	0
##	29.8	0	0	0	0
##	30.8	0	0	0	0
##	31.6	0	0	0	0
##	33.2	0	0	0	0
##	33.3	0	0	0	0
##	33.4	0	0	0	0
##	34.7	0	0	0	0
##	36	0	0	0	0
##	36.2	0	0	1	0
##	36.5	0	0	0	0
##	37.3	0	0	0	0
##	41.3	0	0	0	0

##	43.1	0	0	(
## ##	46 50	0	0	(
##			U	(0
	true	ored 28 2807580632531	28.9188570294383	20 605003130080	20 7622576307781
##	5	0	20.9100370294303	29.093903139909	0
##	7	0	0	0	0
##	7.2	0	0	0	0
##	8.4	0	0	0	0
##	8.5	0	0	0	0
##	10.4	0	0	0	0
##	10.5	0	0	0	0
##	11.5	0	0	0	0
##	11.8	0	0	0	0
##	11.9	0	0	0	0
##	12	0	0	0	0
##	13.1	0	0	0	0
##	13.2	0	0	0	0
##	13.5	0	0	0	0
##	13.6	0	0	0	0
##	13.8	0	0	0	0
##	14.3	0	0	0	0
##	14.4	0	0	0	0
##	14.5	0	0	0	0
##	14.6	0	0	0	0
##	15.2	0	0	0	0
##	15.3	0	0	0	0
##	16.1	0	0	0	0
##	16.2	0	0	0	0
##	16.8	0	0	0	0
##	17.1	0	0	0	0
##	17.5	0	0	0	0
##	17.6	0	0	0	0
##	17.8	0	0	0	0
##	18.1	0	0	0	0
##	18.2	0	0	0	0
##	18.5	0	0	0	0
##	18.6	0	0	0	0
##	18.7	0	0	0	0
##	19.2	0	0	0	0
## ##	19.3 19.4	0	0	0	0
##	19.4	0	0	0	0
##	19.8	0	0	0	0
##	19.9	0	0	0	0
##	20	0	0	0	0
##	20.3	0	0	0	0
##	20.5	0	0	0	0
##	20.5	0	0	0	0
##	20.6	0	0	0	0
##	21.4	0	0	0	0
##	21.7	0	0	0	0
##	21.7	0	0	0	0
##	22.5	0	0	0	0
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	00.0	•	•	•	•
##	22.6	0	0	0	0
##	22.7	0	0	0	0
##	23	0	0	0	0
##	23.1	0	0	0	0
##	23.4	0	0	0	0
##	23.6	0	1	0	0
##	23.7	0	0	0	0
##	23.8	0	0	0	0
##	23.9	0	0	0	0
##	24.5	0	0	0	0
##	24.7	0	0	0	0
##	25	0	0	0	0
##	26.4	0	0	0	0
##	26.7	0	0	0	1
##	27.1	0	0	0	0
##	27.5	0	0	0	0
##	27.9	0	0	0	0
##	28.6	0	0	0	0
##	29.6	0	0	0	0
##	29.8	0	0	0	0
##	30.8	0	0	0	0
##	31.6	0	0	0	0
##	33.2	0	0	0	0
##	33.3	0	0	0	0
##	33.4	1	0	0	0
##	34.7	0	0	1	0
##	36	0	0	0	0
##	36.2	0	0	0	0
##	36.5	0	0	0	0
##	37.3	0	0	0	0
##	41.3	0	0		
				0	0
##	43.1	0	0	0	0
##	46	0	0	0	0
##	50	0	0	0	0
##	pre		00 0000000404470	22 222224	04 4470000004070
##			29.9823899424472		
##	5	0	0	0	0
##	7	0	0	0	0
##	7.2	0	0	0	0
##	8.4	0	0	0	0
##	8.5	0	0	0	0
##	10.4	0	0	0	0
##	10.5	0	0	0	0
##	11.5	0	0	0	0
##	11.8	0	0	0	0
##	11.9	0	0	0	0
##	12	0	0	0	0
##	13.1	0	0	0	0
##	13.2	0	0	0	0
##	13.5	0	0	0	0
##	13.6	0	0	0	0
##	13.8	0	0	0	0
##	14.3	0	0	0	0
##	14.4	0	0	0	0

##	14.5	0	0	0	0
##	14.6	0	0	0	0
##	15.2	0	0	0	0
##	15.3	0	0	0	0
##	16.1	0	0	0	0
##	16.2	0	0	0	0
##	16.8	0	0	0	0
##	17.1	0	0	0	0
##	17.5	0	0	0	0
##	17.6	0	0	0	0
##	17.8	0	0	0	0
##	18.1	0	0	0	0
##	18.2	0	0	0	0
##	18.5	0	0	0	0
##	18.6	0	0	0	0
##	18.7	0	0	0	0
##	19.2	0	0	0	0
##	19.3	0	0	0	0
##	19.4	0	0	0	0
##	19.6	0	0	0	0
##	19.8	0	0	0	0
##	19.9	0	0	0	0
##	20	0	0	0	0
##	20.3	0	0	0	0
##	20.5	0	0	0	0
##	20.6	0	0	0	0
##	21.4	0	0	0	0
##	21.6	0	0	0	0
##	21.7	0	0	0	0
##	21.9	0	0	0	0
##	22.5	0	0	0	0
##	22.6	0	0	0	0
##	22.7	0	0	0	0
##	23	0	0	0	0
##	23.1	0	0	0	0
##	23.4	0	0	0	0
##	23.6	0	0	0	0
##	23.7	0	0	0	0
##	23.8	0	0	0	0
##	23.9	0	0	0	0
##	24.5	0	0	0	0
##	24.7	0	0	0	0
## ##	25 26.4	0	0	0	0
##	26.7	0	0		0
##	27.1	0	0	0	0
	27.5			0	0
## ##	27.9	0	0	0	0
##	28.6	0	0	0	0
##	29.6	0	0	0	0
##	29.8	0	0	0	0
##	30.8	0	1	0	0
##	31.6	1	0	0	0
##	33.2	0	0	0	1
	JJ. <u>L</u>	•	•	•	-

	00.0	•	•	•	•
##	33.3	0	0	0	0
##	33.4	0	0	0	0
##	34.7	0	0	0	0
##	36	0	0	0	0
##	36.2	0	0	0	0
##	36.5	0	0	0	0
##	37.3	0	0	0	0
##	41.3	0	0	1	0
##	43.1	0	0	0	0
##	46	0	0	0	0
##	50	0	0	0	0
##	_	red			
##			33.0528164671315		
##	5	0	0	0	0
##	7	0	0	0	0
##	7.2	0	0	0	0
##	8.4	0	0	0	0
##	8.5	0	0	0	0
##	10.4	0	0	0	0
##	10.5	0	0	0	0
##	11.5	0	0	0	0
##	11.8	0	0	0	0
##	11.9	0	0	0	0
##	12	0	0	0	0
##	13.1	0	0	0	0
##	13.2	0	0	0	0
##	13.5	0	0	0	0
##	13.6	0	0	0	0
##	13.8	0	0	0	0
##	14.3	0	0	0	0
##	14.4	0	0	0	0
##	14.5	0	0	0	0
##	14.6	0	0	0	0
##	15.2	0	0	0	0
##	15.3	0	0	0	0
##	16.1	0	0	0	0
##	16.2	0	0	0	0
##	16.8	0	0	0	0
##	17.1	0	0	0	0
##	17.5	0	0	0	0
##	17.6	0	0	0	0
##	17.8	0	0	0	0
##	18.1	0	0	0	0
##	18.2	0	0	0	0
##	18.5	0	0	0	0
##	18.6	0	0	0	0
##	18.7	0	0	0	0
##	19.2	0	0	0	0
##	19.3	0	0	0	0
##	19.4	0	0	0	0
##	19.6	0	0	0	0
##	19.8	0	0	0	0
##	19.9	0	0	0	0
##	20	0	0	0	0

##	20.3		0	0	C)
##	20.5		0	0	C)
##	20.6	0	0	0	C)
##	21.4		0	0	C)
##	21.6	0	0	0	C)
##	21.7		0	0	C)
##	21.9	0	0	0	C	
##	22.5	0	0	0	C	
##	22.6	0	0	0	C	
##	22.7	0	0	0	C	
##	23	0	0	0	C	
##	23.1	0	0	0	C	
##	23.4		0	0	C	
##	23.6		0	0	C	
##	23.7	0	0	0	C	
##	23.8		0	0	C	
##	23.9	0	0	0	C	
##	24.5	0	0	0	C	
##	24.7		0	0	C	
##	25	0	0	0	C	
##	26.4		0	0	C	
##	26.7		0	0	C	
##	27.1	0	0	0	C	
##	27.5		0	0	C	
##	27.9		0	0	C	
##	28.6		0	0	C	
##	29.6		0	0	C	
##	29.8		0	0	C	
##	30.8		0	0	C	
##	31.6		0	0	C	
##	33.2		0	0	C	
##	33.3		0	0	C	
## ##	33.4 34.7	0	0	0	C	
##	34. <i>1</i> 36	0	0	1	0	
##	36.2		0	0	C	
##	36.5	0	1	0	C	
##	37.3		0	0	C	
##	41.3		0	0	C	
##	43.1		0	0	1	
##	46	0	0	0	C	
##	50	0	0	0	C	
##		pred	· ·	· ·	V	•
##	true		37.2763681697903	38.1179762470672	41.46515907833	
##	5	0	0	0	0	
##	7	0	0	0	0	
##	7.2	0	0	0	0	
##	8.4	0	0	0	0	
##	8.5	0	0	0	0	
##	10.4	0	0	0	0	
##	10.5		0	0	0	
##	11.5		0	0	0	
##	11.8	0	0	0	0	
##	11.9	0	0	0	0	

##	12	0	0	0	0
##	13.1	0	0	0	0
##	13.2	0	0	0	0
##	13.5	0	0	0	0
##	13.6	0	0	0	0
##	13.8	0	0	0	0
##	14.3	0	0	0	0
##	14.4	0	0	0	0
##	14.5	0	0	0	0
##	14.6	0	0	0	0
##	15.2	0	0	0	0
##	15.3	0	0	0	0
##	16.1	0	0	0	0
##	16.2	0	0	0	0
##	16.8	0	0	0	0
##	17.1	0	0	0	0
##	17.5	0	0	0	0
##	17.6	0	0	0	0
##	17.8	0	0	0	0
##	18.1	0	0	0	0
##	18.2	0	0	0	0
##	18.5	0	0	0	0
##	18.6	0	0	0	0
##	18.7	0	0	0	0
##	19.2	0	0	0	0
##	19.3	0	0	0	0
##	19.4	0	0	0	0
##	19.6	0	0	0	0
##	19.8	0	0	0	0
##	19.9	0	0	0	0
##	20	0	0	0	0
##	20.3	0	0	0	0
##	20.5	0	0	0	0
##	20.6	0	0	0	0
##	21.4	0	0	0	0
##	21.6	0	0	0	0
##	21.7	0	0	0	0
##	21.9	0	0	0	0
##	22.5	0	0	0	0
##	22.6	0	0	0	0
##	22.7	0	0	0	0
##	23	0	0	0	0
##	23.1	0	0	0	0
##	23.4	0	0	0	0
##	23.6	0	0	0	0
##	23.7	0	0	0	0
##	23.8	0	0	0	0
##	23.9	0	0	0	0
##	24.5	0	0	0	0
##	24.7	0	0	0	0
##	25	0	0	0	0
##	26.4	0	0	0	0
##	26.7	0	0	0	0
##	27.1	0	0	0	0

```
27.5
                                                                                      0
##
                             0
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##
     27.9
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     28.6
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     29.6
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     29.8
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##
     30.8
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##
     31.6
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##
     33.2
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##
     33.3
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     33.4
##
     34.7
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     36
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     37.3
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     41.3
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##
     43.1
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                                                0
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##
     46
                             0
                                                1
                                                                                      0
##
     50
                             0
                                                0
                                                                                      1
```

```
library(MLmetrics)
print(1 - sum(diag(prop.table(tab))))

pred=predict(svmfit, newdata=Boston[test,])

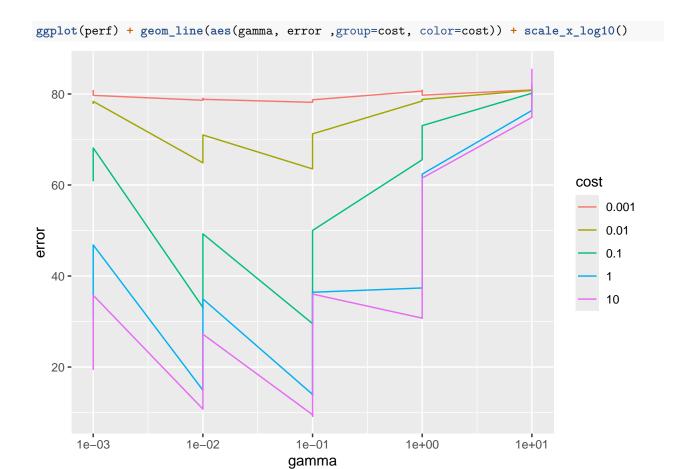
mean_sqr_error_a <- MSE(pred, Boston[test,]$medv)
print(mean_sqr_error_a)

mean_avg_error_a <- MAE(pred, Boston[test,]$medv)
print(mean_avg_error_a)</pre>
```

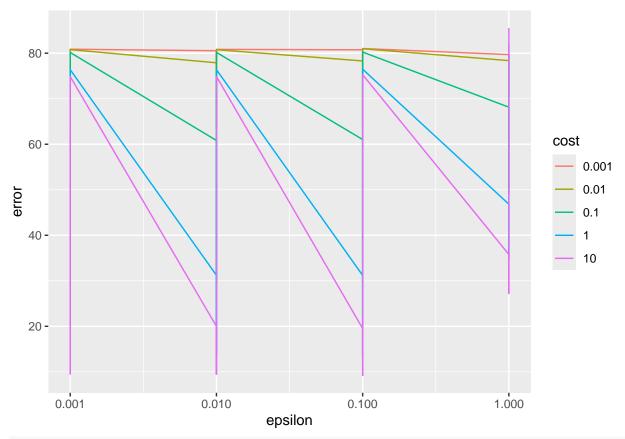
We find that the MCR (missclassification rate) on test data is 0.92. The mean squared error is 42.86. The mean average error is 3.89.

SVR with Radial Basis Kernel

```
set.seed(42)
cost \leftarrow c(0.001, 0.01, 0.1, 1, 10)
gamma \leftarrow c(0.001, 0.01, 0.1, 1.0, 10)
epsilon \leftarrow c(0.001, 0.01, 0.1, 1.0)
tune.out <- tune(svm, medv ~., data = Boston[train, ], kernel = "radial", ranges=list(cost=cost, gamma=
perf <- tune.out$performance</pre>
perf$cost <- factor(perf$cost)</pre>
optimal_vals <- tune.out$best.parameters</pre>
print(optimal_vals)
      cost gamma epsilon
## 65
       10
             0.1
                       0.1
error <- tune.out$performances$error</pre>
#print(tune.out$performances$error)
```



ggplot(perf) + geom_line(aes(epsilon, error ,group=cost, color=cost)) + scale_x_log10()



#ggplot(perf) + geom_line(aes(ep, error ,group=cost, color=cost)) + scale_x_log10()

The graph for gamma versus error has a nice convex shape. With fine-tuning the hyperparameters we find that the ideal hyper-parameters for radial svm is 10 for cost and 0.1 for gamma.

```
library(MLmetrics)
##
## Attaching package: 'MLmetrics'
## The following object is masked from 'package:base':
##
##
       Recall
svmfit <- svm(medv ~., data = Boston[train,], kernel ="radial",</pre>
               gamma= tune.out$best.parameters$gamma,
               cost =tune.out$best.parameters$cost)
tab <- table(true = Boston[test, "medv"], pred=predict(svmfit, newdata=Boston[test,]))</pre>
print(tab)
##
## true
          7.09649208539967 7.56085236137221 8.26399070941445 8.58069099735715
##
     5
                          0
                                                               1
     7
                          0
                                            0
                                                               0
                                                                                 0
##
                          0
                                            0
                                                               0
                                                                                 0
##
     7.2
##
                          0
                                            0
                                                               0
     8.4
                                                                                 1
##
     8.5
                          0
                                            0
                                                               0
                                                                                 0
##
     10.4
                          0
                                             1
                                                                                 0
```

##	10.5	1	0	0	0
##	11.5	0	0	0	0
##	11.8	0	0	0	0
##	11.9	0	0	0	0
##	12	0	0	0	0
##	13.1	0	0	0	0
##	13.2	0	0	0	0
##	13.5	0	0	0	0
##	13.6	0	0	0	0
##	13.8	0	0	0	0
##	14.3	0	0	0	0
##	14.4	0	0	0	0
##	14.5	0	0	0	0
##	14.6	0	0	0	0
##	15.2	0	0	0	0
##	15.3	0	0	0	0
##	16.1	0	0	0	0
##	16.2	0	0	0	0
##	16.8	0	0	0	0
##	17.1	0	0	0	0
##	17.5	0	0	0	0
##	17.6	0	0	0	0
##	17.8	0	0	0	0
##	18.1	0	0	0	0
##	18.2 18.5	0	0	0	0
## ##	18.6	0	0	0	0
##	18.7	0	0	0	0
##	19.2	0	0	0	0
##	19.3	0	0	0	0
##	19.4	0	0	0	0
##	19.6	0	0	0	0
##	19.8	0	0	0	0
##	19.9	0	0	0	0
##	20	0	0	0	0
##	20.3	0	0	0	0
##	20.5	0	0	0	0
##	20.6	0	0	0	0
##	21.4	0	0	0	0
##	21.6	0	0	0	0
##	21.7	0	0	0	0
##	21.9	0	0	0	0
##	22.5	0	0	0	0
##	22.6	0	0	0	0
##	22.7	0	0	0	0
##	23	0	0	0	0
##	23.1	0	0	0	0
##	23.4	0	0	0	0
## ##	23.6	0	0	0	0
## ##	23.7 23.8	0	0	0	0
## ##	23.9	0	0	0	0
##	24.5	0	0	0	0
##	24.7	0	0	0	0
		-	-	-	-

шш	0.5	^	0	^	^
## ##	25 26.4	0	0	0	0
##	26.7	0	0	0	0
##	27.1	0			0
##	27.5	0	0	0	
	27.5			0	0
##		0	0	0	0
##	28.6	0	0	0	0
##	29.6	0	0	0	0
##	29.8	0	0	0	0
##	30.8	0	0	0	0
##	31.6	0	0	0	0
##	33.2	0	0	0	0
##	33.3	0	0	0	0
##	33.4	0	0	0	0
##	34.7	0	0	0	0
##	36	0	0	0	0
##	36.2	0	0	0	0
##	36.5	0	0	0	0
##	37.3	0	0	0	0
##	41.3	0	0	0	0
##	43.1	0	0	0	0
##	46	0	0	0	0
##	50	0	0	0	0
##	pred				
##	true 9.28	732895213308	9.95275358228568	10.1704136432245	11.4037789678227
##	5	0	0	0	0
##	7	0	0	1	0
##	7.2	0	0	0	1
##	8.4	0	0	0	0
##	8.5	0	1	0	0
##	10.4	0	0	0	0
##	10.5	0	0	0	0
##	11.5	0	0	0	0
##	11.8	1	0	0	0
##	11.9	0	0	0	0
##	12	0	0	0	0
##	13.1	0	0	0	0
##	13.2	0	0	0	0
##	13.5	0	0	0	0
##	13.6	0	0	0	0
##	13.8	0	0	0	0
##	14.3	0	0	0	0
##	14.4	0	0	0	0
##	14.5	0	0	0	0
##	14.6	0	0	0	0
##	15.2	0	0	0	0
##	15.3	0	0	0	0
##					
		0	0	0	0
##	16.1	0	0	0	0
	16.1 16.2	0	0	0	0
##	16.1 16.2 16.8	0 0	0	0	0 0
## ##	16.1 16.2 16.8 17.1	0 0 0	0 0 0	0 0 0	0 0 0
## ## ##	16.1 16.2 16.8 17.1 17.5	0 0 0	0 0 0	0 0 0	0 0 0 0
## ##	16.1 16.2 16.8 17.1	0 0 0	0 0 0	0 0 0	0 0 0

##	18.1	0	0	0	0
##	18.2	0	0	0	0
##	18.5	0	0	0	0
##	18.6	0	0	0	0
##	18.7	0	0	0	0
##	19.2	0	0	0	0
##	19.3	0	0	0	0
##	19.4	0	0	0	0
##	19.6	0	0	0	0
##	19.8	0	0	0	0
##	19.9	0	0	0	0
##	20	0	0	0	0
##	20.3	0	0	0	0
##	20.5	0	0	0	0
##	20.6	0	0	0	0
##	21.4	0	0	0	0
##	21.6	0	0	0	0
##	21.7 21.9	0	0	0	0
## ##	22.5	0	0	0	0
##	22.6	0	0	0	0
##	22.7	0	0	0	0
##	23	0	0	0	0
##	23.1	0	0	0	0
##	23.4	0	0	0	0
##	23.6	0	0	0	0
##	23.7	0	0	0	0
##	23.8	0	0	0	0
##	23.9	0	0	0	0
##	24.5	0	0	0	0
##	24.7	0	0	0	0
##	25	0	0	0	0
##	26.4	0	0	0	0
##	26.7	0	0	0	0
##	27.1	0	0	0	0
##	27.5	0	0	0	0
##	27.9	0	0	0	0
##	28.6	0	0	0	0
##	29.6	0	0	0	0
## ##	29.8 30.8	0	0	0	0
##	31.6	0	0	0	0
##	33.2	0	0	0	0
##	33.3	0	0	0	0
##	33.4	0	0	0	0
##	34.7	0	0	0	0
##	36	0	0	0	0
##	36.2	0	0	0	0
##	36.5	0	0	0	0
##	37.3	0	0	0	0
##	41.3	0	0	0	0
##	43.1	0	0	0	0
##	46	0	0	0	0
##	50	0	0	0	0

##	,	pred			
	true		12.7184606232406	12.7764519542463	12.8042707660464
##	5	0	0	0	0
##	7	0	0	0	0
##	7.2	0	0	0	0
##	8.4	0	0	0	0
##	8.5	0	0	0	0
##	10.4	0	0	0	0
##	10.5	0	0	0	0
##	11.5	0	1	0	0
##	11.8	0	0	0	0
##	11.9	0	0	0	0
##	12	0	0	0	0
##	13.1	0	0	0	0
##	13.2	0	0	1	0
##	13.5	0	0	0	1
##	13.6	0	0	0	0
##	13.8	1	0	0	0
## ##	14.3 14.4	0	0	0	0
##	14.4	0	0	0	0
##	14.5	0	0	0	0
##	15.2	0	0	0	0
##	15.3	0	0	0	0
##	16.1	0	0	0	0
##	16.2	0	0	0	0
##	16.8	0	0	0	0
##	17.1	0	0	0	0
##	17.5	0	0	0	0
##	17.6	0	0	0	0
##	17.8	0	0	0	0
##	18.1	0	0	0	0
##	18.2	0	0	0	0
##	18.5	0	0	0	0
##	18.6	0	0	0	0
##	18.7	0	0	0	0
##	19.2	0	0	0	0
##	19.3	0	0	0	0
##	19.4	0	0	0	0
##	19.6	0	0	0	0
##	19.8	0	0	0	0
##	19.9	0	0	0	0
##	20	0	0	0	0
##	20.3	0	0	0	0
##	20.5 20.6		0	0	0
##	20.6		0	0	0
## ##	21.4	0	0	0	0
##	21.6	0	0	0	0
##	21.7	0	0	0	0
##	22.5	0	0	0	0
##	22.6		0	0	0
##	22.7	0	0	0	0
##	23	0	0	0	0
	_0	v	V	V	v

##					
	23.1	0	0	0	0
##	23.4	0	0	0	0
##	23.6	0	0	0	0
##	23.7	0	0	0	0
##	23.8	0	0	0	0
##	23.9	0	0	0	0
##	24.5	0	0	0	0
##	24.7	0	0	0	0
##	25	0	0	0	0
##	26.4	0	0	0	0
##	26.7	0	0	0	0
##	27.1	0	0	0	0
##	27.5	0	0	0	0
	27.9				
##		0	0	0	0
##	28.6	0	0	0	0
##	29.6	0	0	0	0
##	29.8	0	0	0	0
##	30.8	0	0	0	0
##	31.6	0	0	0	0
##	33.2	0	0	0	0
##	33.3	0	0	0	0
##	33.4	0	0	0	0
##	34.7	0	0	0	0
##	36	0	0	0	0
##	36.2	0	0	0	0
##	36.5	0	0	0	0
##	37.3	0	0	0	0
##	41.3	0	0	0	0
##	43.1	0	0	0	0
##	46	0	0	0	0
##		U		0	0
##	EΛ	0	Λ		U
шш	50	0	0	· ·	
##	pred	1			44 400750000404
##	pred true 13	l 0369048516903	13.6780656569902	13.7855768555145	
## ##	pred true 13.	1 .0369048516903 0	13.6780656569902	13.7855768555145 0	0
## ## ##	pred true 13. 5 7	d 0369048516903 0 0	13.6780656569902 0 0	13.7855768555145 0 0	0
## ## ## ##	pred true 13. 5 7 7.2	0369048516903 0 0 0 0	13.6780656569902 0 0	13.7855768555145 0 0 0	0 0 0
## ## ## ##	pred true 13. 5 7 7.2 8.4	0 0369048516903 0 0 0 0	13.6780656569902 0 0 0	13.7855768555145 0 0 0 0	0 0 0 0
## ## ## ## ##	prec true 13. 5 7 7.2 8.4 8.5	0 0369048516903 0 0 0 0	13.6780656569902 0 0 0 0	13.7855768555145 0 0 0 0 0	0 0 0 0
## ## ## ##	true 13.5 7 7.2 8.4 8.5 10.4	0369048516903 0 0 0 0 0 0	13.6780656569902 0 0 0 0 0	13.7855768555145 0 0 0 0 0 0	0 0 0 0 0
## ## ## ## ## ##	pred true 13. 5 7 7.2 8.4 8.5 10.4 10.5	0369048516903 0 0 0 0 0 0 0	13.6780656569902 0 0 0 0 0 0	13.7855768555145 0 0 0 0 0 0 0	0 0 0 0 0 0
## ## ## ## ## ##	pred true 13. 5 7 7.2 8.4 8.5 10.4 10.5 11.5	0369048516903 0 0 0 0 0 0	13.6780656569902 0 0 0 0 0	13.7855768555145 0 0 0 0 0 0	0 0 0 0 0
## ## ## ## ## ##	pred true 13. 5 7 7.2 8.4 8.5 10.4 10.5	0369048516903 0 0 0 0 0 0 0	13.6780656569902 0 0 0 0 0 0	13.7855768555145 0 0 0 0 0 0 0	0 0 0 0 0 0
## ## ## ## ## ##	pred true 13. 5 7 7.2 8.4 8.5 10.4 10.5 11.5	0 0369048516903 0 0 0 0 0 0 0	13.6780656569902 0 0 0 0 0 0 0	13.7855768555145 0 0 0 0 0 0 0	0 0 0 0 0 0
## ## ## ## ## ## ##	pred true 13. 5 7 7.2 8.4 8.5 10.4 10.5 11.5 11.8 11.9	0369048516903 0 0 0 0 0 0 0 0 0	13.6780656569902 0 0 0 0 0 0 0 0	13.7855768555145 0 0 0 0 0 0 0 0	0 0 0 0 0 0 0
## ## ## ## ## ## ##	rue 13.5 7 7.2 8.4 8.5 10.4 10.5 11.5 11.8 11.9	0369048516903 0 0 0 0 0 0 0 0 0 0	13.6780656569902 0 0 0 0 0 0 0 0 0 0	13.7855768555145 0 0 0 0 0 0 0 0 0 0	0 0 0 0 0 0 0 0
## ## ## ## ## ## ## ##	pred true 13. 5 7 7.2 8.4 8.5 10.4 10.5 11.5 11.8 11.9 12	0369048516903 0 0 0 0 0 0 0 0 0 0 0	13.6780656569902 0 0 0 0 0 0 0 0 0 0 0	13.7855768555145 0 0 0 0 0 0 0 0 0 0 0	0 0 0 0 0 0 0 0
## ## ## ## ## ## ## ## ## ## ## ## ##	pred true 13. 5 7 7.2 8.4 8.5 10.4 10.5 11.5 11.8 11.9 12 13.1 13.2	0 0369048516903 0 0 0 0 0 0 0 0 0 1	13.6780656569902 0 0 0 0 0 0 0 0 0 0 0 0 0	13.7855768555145 0 0 0 0 0 0 0 0 0 0 0 0 0	0 0 0 0 0 0 0 0
## ## ## ## ## ## ## ## ## ## ## ## ##	pred true 13. 5 7 7.2 8.4 8.5 10.4 10.5 11.5 11.8 11.9 12 13.1 13.2 13.5	0 0369048516903 0 0 0 0 0 0 0 0 0 0 1 0 0	13.6780656569902 0 0 0 0 0 0 0 0 0 0 0 0 0	13.7855768555145 0 0 0 0 0 0 0 0 0 0 0 0 0	0 0 0 0 0 0 0 0 0
######################################	pred true 13.5 7 7.2 8.4 8.5 10.4 10.5 11.5 11.8 11.9 12 13.1 13.2 13.5 13.6	0 0369048516903 0 0 0 0 0 0 0 0 0 0 0 0	13.6780656569902 0 0 0 0 0 0 0 0 0 0 0 0 0	13.7855768555145 0 0 0 0 0 0 0 0 0 0 0 0 0	0 0 0 0 0 0 0 0 0
## ## ## ## ## ## ## ## ## ## ## ## ##	rue 13.5 7 7.2 8.4 8.5 10.4 10.5 11.5 11.8 11.9 12 13.1 13.2 13.5 13.6 13.8	0 0369048516903 0 0 0 0 0 0 0 0 0 0 0 0	13.6780656569902 0 0 0 0 0 0 0 0 0 0 0 0 0	13.7855768555145 0 0 0 0 0 0 0 0 0 0 0 0 0	0 0 0 0 0 0 0 0 0 0 0 0
######################################	rue 13.5 7 7.2 8.4 8.5 10.4 10.5 11.5 11.8 11.9 12 13.1 13.2 13.5 13.6 13.8 14.3	0 0369048516903 0 0 0 0 0 0 0 0 0 0 0 0 0 0	13.6780656569902 0 0 0 0 0 0 0 0 0 0 0 0 0	13.7855768555145 0 0 0 0 0 0 0 0 0 0 0 0 0	0 0 0 0 0 0 0 0 0 0 0 0 0
######################################	rue 13.5 7 7.2 8.4 8.5 10.4 10.5 11.5 11.8 11.9 12 13.1 13.2 13.5 13.6 13.8 14.3 14.4	1 .0369048516903 0 0 0 0 0 0 0 0 0 1 0 0 0 0 0	13.6780656569902 0 0 0 0 0 0 0 0 0 0 0 0 0	13.7855768555145 0 0 0 0 0 0 0 0 0 0 0 0 0	0 0 0 0 0 0 0 0 0 0 0 0 0
######################################	prec true 13.5 7 7.2 8.4 8.5 10.4 10.5 11.5 11.8 11.9 12 13.1 13.2 13.5 13.6 13.8 14.3 14.4 14.5	1 .0369048516903 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0	13.6780656569902 0 0 0 0 0 0 0 0 0 0 0 0 0	13.7855768555145 0 0 0 0 0 0 0 0 0 0 0 0 0	0 0 0 0 0 0 0 0 0 0 0 0 0 0
#######################################	pred true 13.5 7 7.2 8.4 8.5 10.4 10.5 11.5 11.8 11.9 12 13.1 13.2 13.5 13.6 13.8 14.3 14.4 14.5 14.6	1 .0369048516903 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0	13.6780656569902 0 0 0 0 0 0 0 0 0 0 0 0 0	13.7855768555145 0 0 0 0 0 0 0 0 0 0 0 0 0	0 0 0 0 0 0 0 0 0 0 0 0 0 0
######################################	prec true 13.5 7 7.2 8.4 8.5 10.4 10.5 11.5 11.8 11.9 12 13.1 13.2 13.5 13.6 13.8 14.3 14.4 14.5	1 .0369048516903 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0	13.6780656569902 0 0 0 0 0 0 0 0 0 0 0 0 0	13.7855768555145 0 0 0 0 0 0 0 0 0 0 0 0 0	0 0 0 0 0 0 0 0 0 0 0 0 0 0

##	15.3	0	0	0	0
##	16.1	0	0	0	0
##	16.2	0	0	0	0
##	16.8	0	0	0	0
##	17.1	0	0	0	0
##	17.5	0	0	0	0
##	17.6	0	0	0	0
##	17.8	0	1	0	0
##	18.1	0	0	0	0
##	18.2	0	0	0	0
##	18.5	0	0	0	0
##	18.6	0	0	0	0
##	18.7	0	0	0	0
##	19.2	0	0	0	0
##	19.3	0	0	0	0
##	19.4	0	0	0	0
##	19.6	0	0	0	0
##	19.8	0	0	0	0
##	19.9	0	0	0	0
##	20	0	0	0	0
##	20.3	0	0	0	0
##	20.5	0	0	0	0
##	20.6	0	0	0	0
##	21.4	0	0	0	0
##	21.6	0	0	0	0
##	21.7	0	0	0	0
##	21.9	0	0	0	0
##	22.5	0	0	0	0
##	22.6	0	0	0	0
##	22.7	0	0	0	0
##	23	0	0	0	0
##	23.1	0	0	0	0
##	23.4	0	0	0	0
##	23.6	0	0	0	0
##	23.7	0	0	0	0
##	23.8	0	0	0	0
##	23.9	0	0	0	0
##	24.5	0	0	0	0
##	24.7	0	0	0	0
##	25	0	0	0	0
##	26.4	0	0	0	0
##	26.7	0	0	0	0
##	27.1	0	0	0	0
##	27.5	0	0	0	0
##	27.9	0	0	0	0
##	28.6	0	0	0	0
##	29.6	0	0	0	0
##	29.8	0	0	0	0
##	30.8	0	0	0	0
##	31.6	0	0	0	0
##	33.2	0	0	0	0
##	33.3	0	0	0	0
##	33.4	0	0	0	0
##	34.7	0	0	0	0
πĦ	01.1	· ·	V	J	J

##	36	0	0	C	
##	36.2	0	0	C	
##	36.5	0	0	C	
##	37.3 41.3	0	0	C	
## ##	41.3	0	0	C	
##	45.1	0	0	C	
##	50	0	0	C	
##		red	U		0
##	-		14.564796367722 1	4 7939101203036	15 2331737501465
##	5	0	0	0	0
##	7	0	0	0	0
##	7.2	0	0	0	0
##	8.4	0	0	0	0
##	8.5	0	0	0	0
##	10.4	0	0	0	0
##	10.5	0	0	0	0
##	11.5	0	0	0	0
##	11.8	0	0	0	0
##	11.9	0	0	0	0
##	12	0	0	0	0
##	13.1	0	0	0	0
##	13.2	0	0	0	0
##	13.5	0	0	0	0
##	13.6	0	1	0	0
##	13.8	0	0	0	0
##	14.3	0	0	0	0
##	14.4	0	0	0	0
##	14.5	1	0	0	0
##	14.6	0	0	1	0
##	15.2	0	0	0	0
## ##	15.3 16.1	0	0	0	1 0
##	16.1	0	0	0	0
##	16.8	0	0	0	0
##	17.1	0	0	0	0
##	17.5	0	0	0	0
##	17.6	0	0	0	0
##	17.8	0	0	0	0
##	18.1	0	0	0	0
##	18.2	0	0	0	0
##	18.5	0	0	0	0
##	18.6	0	0	0	0
##	18.7	0	0	0	0
##	19.2	0	0	0	0
##	19.3	0	0	0	0
##	19.4	0	0	0	0
##	19.6	0	0	0	0
##	19.8	0	0	0	0
##	19.9	0	0	0	0
##	20	0	0	0	0
##	20.3	0	0	0	0
##	20.5	0	0	0	0
##	20.6	0	0	0	0

			_		_
##	21.4	0	0	0	0
##	21.6	0	0	0	0
##	21.7	0	0	0	0
##	21.9	0	0	0	0
##	22.5	0	0	0	0
##	22.6	0	0	0	0
##	22.7	0	0	0	0
##	23	0	0	0	0
##	23.1	0	0	0	0
##	23.4	0	0	0	0
##	23.6	0	0	0	0
##	23.7	0	0	0	0
##	23.8	0	0	0	0
##	23.9	0	0	0	0
##	24.5	0	0	0	0
##	24.7	0	0	0	0
##	25	0	0	0	0
##	26.4	0	0	0	0
##	26.7	0	0	0	0
##	27.1	0	0	0	0
##	27.5	0	0	0	0
##	27.9	0	0	0	0
##	28.6	0	0	0	0
##	29.6	0	0	0	0
##	29.8	0	0	0	0
##	30.8	0	0	0	0
##	31.6	0	0	0	0
##	33.2	0	0	0	0
##	33.3	0	0	0	0
##	33.4	0	0	0	0
##	34.7	0	0	0	0
##	36	0	0	0	0
##	36.2	0	0	0	0
##	36.5	0	0	0	0
##	37.3	0	0	0	0
##	41.3	0	0	0	0
##	43.1	0	0	0	0
##	46	0	0	0	0
##	50	0	0	0	0
##	pre		·	·	·
##			15 5357967031108	15.6246444719107	15.6622413344711
##	5	0	0	1	0
##	7	0	0	0	0
##	7.2	0	0	0	0
##	8.4	0	0	0	0
##	8.5	0	0	0	0
##	10.4	0	0	0	0
##	10.4	0	0	0	0
##	11.5	0	0	0	0
##	11.8	0	0	0	0
##	11.8	0	0	0	0
##	11.9 12	0	0	0	0
##	13.1	1	0	0	0
##	13.2	0	0	0	0

##	13.5	^	^	0	^
## ##	13.6	0	0	0	0
##	13.8	0	0	0	0
##	14.3	0	1	0	0
	14.4	0	0	0	0
##	14.5			0	
##		0	0		0
##	14.6	0	0	0	0
##	15.2	0	0	0	1
##	15.3	0	0	0	0
##	16.1	0	0	0	0
##	16.2	0	0	0	0
##	16.8	0	0	0	0
##	17.1	0	0	0	0
##	17.5	0	0	0	0
##	17.6	0	0	0	0
##	17.8	0	0	0	0
##	18.1	0	0	0	0
##	18.2	0	0	0	0
##	18.5	0	0	0	0
##	18.6	0	0	0	0
##	18.7	0	0	0	0
##	19.2	0	0	0	0
##	19.3	0	0	0	0
##	19.4	0	0	0	0
##	19.6	0	0	0	0
##	19.8	0	0	0	0
##	19.9	0	0	0	0
##	20	0	0	0	0
##	20.3	0	0	0	0
##	20.5	0	0	0	0
##	20.6	0	0	0	0
##	21.4	0	0	0	0
##	21.6	0	0	0	0
##	21.7	0	0	0	0
##	21.9	0	0	0	0
##	22.5	0	0	0	0
##	22.6	0	0	0	0
##	22.7	0	0	0	0
##	23	0	0	0	0
##	23.1	0	0	0	0
##	23.4	0	0	0	0
##	23.6	0	0	0	0
##	23.7	0	0	0	0
##	23.8	0	0	0	0
##	23.9	0	0	0	0
##	24.5	0	0	0	0
##	24.7	0	0	0	0
##	25	0	0	0	0
##	26.4	0	0	0	0
##	26.7	0	0	0	0
##	27.1	0	0	0	0
##	27.5	0	0	0	0
##	27.9	0	0	0	0
##	28.6	0	0	0	0
##	20.0	V	V	V	J

##	29.6	0	0	0	
##	29.8	0	0	0	
##	30.8	0	0	0	
##	31.6	0	0	0	0
##	33.2	0	0	0	0
##	33.3	0	0	0	0
##	33.4	0	0	0	0
##	34.7	0	0	0	
##	36	0	0	0	
##	36.2	0	0	0	
##	36.5	0	0	0	
##	37.3	0	0	0	
##	41.3	0	0	0	
##	43.1	0	0	0	
##	46	0	0	0	
##	50	0	0	0	
			U	U	U
##		pred	16 0460040400467 4	16 0601117160000	17 1606470046710
##	true		16.0463840423167		
##	5	0	0	0	0
##	7	0	0	0	0
##	7.2	0	0	0	0
##	8.4	0	0	0	0
##	8.5	0	0	0	0
##	10.4	0	0	0	0
##	10.5	0	0	0	0
##	11.5	0	0	0	0
##	11.8	0	0	0	0
##	11.9	0	0	0	0
##	12	0	0	0	0
##	13.1	0	0	0	0
##	13.2	0	0	0	0
##	13.5	0	0	0	0
##	13.6	0	0	0	0
##	13.8	0	0	0	0
##	14.3	0	0	0	0
##	14.4	0	0	1	0
##	14.5	0	0	0	0
##	14.6	0	0	0	0
##	15.2	0	0	0	0
##	15.3	0	0	0	0
##	16.1	0	0	0	0
##	16.2	1	0	0	0
##	16.8	0	0	0	0
##	17.1	0	0	0	0
##	17.5	0	0	0	0
##	17.6	0	0	0	0
##	17.8	0	0	0	1
##	18.1	0	0	0	0
##	18.2	0	0	0	0
##	18.5	0	0	0	0
##	18.6	0	0	0	0
##	18.7	0	0	0	0
##	19.2		0	0	0
##	19.3	0	0	0	0

		_	_	_	_
##	19.4	0	0	0	0
##	19.6	0	0	0	0
##	19.8	0	0	0	0
##	19.9	0	0	0	0
##	20	0	0	0	0
##	20.3	0	0	0	0
##	20.5	0	0	0	0
##	20.6	0	0	0	0
##	21.4	0	0	0	0
##	21.6	0	0	0	0
##	21.7	0	0	0	0
	21.7		0	0	0
##		0			
##	22.5	0	0	0	0
##	22.6	0	0	0	0
##	22.7	0	0	0	0
##	23	0	0	0	0
##	23.1	0	0	0	0
##	23.4	0	0	0	0
##	23.6	0	0	0	0
##	23.7	0	0	0	0
##	23.8	0	0	0	0
##	23.9	0	0	0	0
##	24.5	0	0	0	0
##	24.7	0	0	0	0
##	25	0	0	0	0
##	26.4	0	0	0	0
##	26.7	0	0	0	0
##	27.1	0	0	0	0
	27.5				
##		0	1	0	0
##	27.9	0	0	0	0
##	28.6	0	0	0	0
##	29.6	0	0	0	0
##	29.8	0	0	0	0
##	30.8	0	0	0	0
##	31.6	0	0	0	0
##	33.2	0	0	0	0
##	33.3	0	0	0	0
##	33.4	0	0	0	0
##	34.7	0	0	0	0
##	36	0	0	0	0
##	36.2	0	0	0	0
##	36.5	0	0	0	0
##	37.3	0	0	0	0
##	41.3	0	0	0	0
##	43.1	0	0	0	0
##	46	0	0	0	0
##	50	0	0	0	0
##	pred		V	V	O
##	-		17 523704446447	17.6969778505924	17 8255133509204
##	5	0000114440090	0	0	0
##	7	0	0	0	0
##	7.2	0	0	0	0
##	8.4	0	0	0	0
##	8.5	0	0	0	0

##	10.4	0	0	0	0
##	10.5	0	0	0	0
##	11.5	0	0	0	0
##	11.8	0	0	0	0
##	11.9	0	0	0	0
##	12	0	0	0	0
##	13.1	0	0	0	0
##	13.2	0	0	0	0
##	13.5	0	0	0	0
##	13.6	0	0	0	0
##	13.8	0	0	0	0
##	14.3	0	0	0	0
##	14.4	0	0	0	0
##	14.5	0	0	0	0
##	14.6	0	0	0	0
##	15.2	0	0	0	0
##	15.3	0	0	0	0
##	16.1	0	1	0	0
##	16.2	0	0	0	0
##	16.8	0	0	0	0
##	17.1	0	0	0	0
##	17.5	0	0	0	0
##	17.6	0	0	0	0
##	17.8	0	0	0	0
##	18.1	0	0	0	0
##	18.2	0	0	0	0
##	18.5	0	0	0	0
##	18.6	0	0	0	0
##	18.7	0	0	1	0
##	19.2	0	0	0	0
##	19.3	0	0	0	0
##	19.4	0	0	0	0
##	19.6	0	0	0	0
##	19.8	0	0	0	0
##	19.9	0	0	0	0
##	20	0	0	0	1
##	20.3	0	0	0	0
##	20.5	0	0	0	0
##	20.6	0	0	0	0
##	21.4	1	0	0	0
##	21.6	0	0	0	0
##	21.7	0	0	0	0
##	21.9	0	0	0	0
##	22.5	0	0	0	0
##	22.6	0	0	0	0
##	22.7	0	0	0	0
##	23	0	0	0	0
##	23.1	0	0	0	0
##	23.4	0	0	0	0
##	23.6	0	0	0	0
##	23.7	0	0	0	0
##	23.8	0	0	0	0
##	23.9	0	0	0	0
##	24.5	0	0	0	0
		•	•	•	•

##	24.7	0	0	0	0
##	24.7 25	0	0	0	0
##	26.4	0	0	0	0
##	26.7	0	0	0	0
##	27.1	0	0	0	0
##	27.5	0	0	0	0
##	27.9	0	0	0	0
##	28.6	0	0	0	0
##	29.6	0	0	0	0
##	29.8	0	0	0	0
##	30.8	0	0	0	0
##	31.6	0	0	0	0
##	33.2	0	0	0	0
##	33.3	0	0	0	0
##	33.4	0	0	0	0
##	34.7	0	0	0	0
##	36	0	0	0	0
##	36.2	0	0	0	0
##	36.5	0	0	0	0
##	37.3	0	0	0	0
##	41.3	0	0	0	0
##	43.1	0	0	0	0
##	46	0	0	0	0
##	50	0	0	0	0
##	pred		O .	V	V
##	-		17.8431847621061	17 8815787652157	17 9319726052106
##	5	0	0	0	0
##	7	0	0	0	0
##	7.2	0	0	0	0
##	8.4	0	0	0	0
##	8.5	0	0	0	0
##	10.4	0	0	0	0
##	10.5	0	0	0	0
##	11.5	0	0	0	0
##	11.8	0	0	0	0
##	11.9	0	0	0	0
##	12	0	0	0	0
##	13.1		•	U	U
##		0	0	0	0
		0			
##	13.2 13.5		0	0	0
## ##	13.2	0	0	0	0
	13.2 13.5	0	0 0 0	0 0 0	0 0 0
##	13.2 13.5 13.6	0 0 0	0 0 0	0 0 0	0 0 0 0
## ##	13.2 13.5 13.6 13.8	0 0 0	0 0 0 0	0 0 0 0	0 0 0 0
## ## ##	13.2 13.5 13.6 13.8 14.3	0 0 0 0	0 0 0 0 0	0 0 0 0 0	0 0 0 0 0
## ## ## ##	13.2 13.5 13.6 13.8 14.3 14.4	0 0 0 0 0	0 0 0 0 0 0	0 0 0 0 0	0 0 0 0 0 0
## ## ## ##	13.2 13.5 13.6 13.8 14.3 14.4 14.5 14.6 15.2	0 0 0 0 0 0	0 0 0 0 0 0	0 0 0 0 0 0	0 0 0 0 0 0
## ## ## ## ##	13.2 13.5 13.6 13.8 14.3 14.4 14.5 14.6 15.2 15.3	0 0 0 0 0 0 0	0 0 0 0 0 0 0 0	0 0 0 0 0 0 0 0	0 0 0 0 0 0 0 0
## ## ## ## ## ##	13.2 13.5 13.6 13.8 14.3 14.4 14.5 14.6 15.2 15.3 16.1	0 0 0 0 0 0 0 0	0 0 0 0 0 0 0 0	0 0 0 0 0 0 0 0	0 0 0 0 0 0 0 0 0
## ## ## ## ## ##	13.2 13.5 13.6 13.8 14.3 14.4 14.5 14.6 15.2 15.3 16.1 16.2	0 0 0 0 0 0 0	0 0 0 0 0 0 0 0	0 0 0 0 0 0 0 0 0	0 0 0 0 0 0 0 0 0
## ## ## ## ## ##	13.2 13.5 13.6 13.8 14.3 14.4 14.5 14.6 15.2 15.3 16.1 16.2 16.8	0 0 0 0 0 0 0 0 0	0 0 0 0 0 0 0 0 0	0 0 0 0 0 0 0 0 0	0 0 0 0 0 0 0 0 0
## ## ## ## ## ## ##	13.2 13.5 13.6 13.8 14.3 14.4 14.5 14.6 15.2 15.3 16.1 16.2 16.8 17.1	0 0 0 0 0 0 0 0 0 0		0 0 0 0 0 0 0 0 0 0	0 0 0 0 0 0 0 0 0 0
## ## ## ## ## ## ## ## ## ## ## ## ##	13.2 13.5 13.6 13.8 14.3 14.4 14.5 14.6 15.2 15.3 16.1 16.2 16.8 17.1 17.5	0 0 0 0 0 0 0 0 0 0		0 0 0 0 0 0 0 0 0 0	0 0 0 0 0 0 0 0 0 0 0
## ## ## ## ## ## ##	13.2 13.5 13.6 13.8 14.3 14.4 14.5 14.6 15.2 15.3 16.1 16.2 16.8 17.1	0 0 0 0 0 0 0 0 0 0		0 0 0 0 0 0 0 0 0 0	0 0 0 0 0 0 0 0 0 0

##	17.8	0	0	0	0
##	18.1	0	1	0	0
##	18.2	0	0	1	0
##	18.5			0	
		1	0		0
##	18.6	0	0	0	0
##	18.7	0	0	0	0
##	19.2	0	0	0	1
##	19.3	0	0	0	0
##	19.4	0	0	0	0
##	19.6	0	0	0	0
##	19.8	0	0	0	0
##	19.9	0	0	0	0
##	20	0	0	0	0
##	20.3	0	0	0	0
##	20.5	0	0	0	0
##	20.6	0	0	0	0
##	21.4	0	0	0	0
##	21.6	0	0	0	0
##	21.7	0	0	0	0
##	21.9	0	0	0	0
##	22.5	0	0	0	0
##	22.6	0	0	0	0
##	22.7	0	0	0	0
##	23	0	0	0	0
##	23.1	0	0	0	0
##	23.4	0	0	0	0
##	23.6	0	0	0	0
##	23.7	0	0	0	0
##	23.8	0	0	0	0
##	23.9	0	0	0	0
##	24.5	0	0	0	0
##	24.7	0	0	0	0
##	25	0	0	0	0
##	26.4	0	0	0	0
##	26.7	0	0	0	0
##	27.1	0	0	0	0
##	27.5	0	0	0	0
##	27.9	0	0	0	0
##	28.6	0	0	0	0
##	29.6	0	0	0	0
##	29.8	0	0	0	0
##	30.8	0	0	0	0
##	31.6	0	0	0	0
##	33.2	0	0	0	0
##	33.3	0	0	0	0
##	33.4	0	0	0	0
##	34.7	0	0	0	0
##	36	0	0	0	0
##	36.2	0	0	0	0
##	36.5	0	0	0	0
##	37.3	0	0	0	0
##	41.3	0	0	0	0
##	43.1	0	0	0	0
##	46	0	0	0	0

##	50	0	0	(0
##		pred			
	true		18.3880792774661		
##	5	0	0	0	0
##	7	0	0	0	0
##	7.2	0	0	0	0
##	8.4	0	0	0	0
##	8.5	0	0	0	0
##	10.4		0	0	0
##	10.5		0	0	0
##	11.5		0	0	0
##	11.8		0	0	0
##	11.9		0	0	0
## ##	12 13.1	. 0	0	0	0
##	13.1		0	0	0
##	13.5		0	0	0
##	13.6		0	0	0
##	13.8		0	0	0
##	14.3		0	0	0
##	14.4		0	0	0
##	14.5		0	0	0
##	14.6		0	0	0
##	15.2		0	0	0
##	15.3		0	0	0
##	16.1		0	0	0
##	16.2		0	0	0
##	16.8		0	0	0
##	17.1		0	0	0
##	17.5	0	0	1	0
##	17.6	0	0	0	1
##	17.8	0	0	0	0
##	18.1	. 0	0	0	0
##	18.2	2 0	0	0	0
##	18.5	0	0	0	0
##	18.6		0	0	0
##	18.7		0	0	0
##	19.2		0	0	0
##	19.3		0	0	0
##	19.4		0	0	0
##	19.6		0	0	0
##	19.8		0	0	0
##	19.9		0	0	0
##	20	0	0	0	0
##	20.3		0	0	0
##	20.5		0	0	0
##	20.6		0	0	0
##	21.4		0	0	0
## ##	21.6 21.7		0	0	0
##	21.7		0	0	0
##	22.5		0	0	0
##	22.6		0	0	0
##	22.7		1	0	0
	1	V	-	O	V

##	23	0	0	0	0
##	23.1	0	0	0	0
##	23.4	0	0	0	0
##	23.6	0	0	0	0
##	23.7	0	0	0	0
##	23.8	0	0	0	0
##	23.9	0	0	0	0
##	24.5	0	0	0	0
##	24.7	0	0	0	0
##	25	0	0	0	0
##	26.4	0	0	0	0
##	26.7	0	0	0	0
##	27.1	0	0	0	0
##	27.5	0	0	0	0
##	27.9	1	0	0	0
##	28.6	0	0	0	0
##	29.6	0	0	0	0
##	29.8	0	0	0	0
##	30.8	0	0	0	0
##	31.6	0	0	0	0
##	33.2	0	0	0	0
##	33.3	0	0	0	0
##	33.4	0	0	0	0
##	34.7	0	0	0	0
##	36	0	0	0	0
##	36.2	0	0	0	0
##	36.5	0	0	0	0
##	37.3	0	0	0	0
##	41.3	0	0	0	0
##	43.1	0	0	0	0
##	46	0	0	0	0
## ##	50	0 red	Ü	0	0
##			18.967198895914	19 1914193919871	19 2664569016709
##	5	0.0701701473233	0	0	0
##	7	0	0	0	0
##	7.2	0	0	0	0
##	8.4	0	0	0	0
##	8.5	0	0	0	0
##	10.4	0	0	0	0
##	10.5	0	0	0	0
##	11.5	0	0	0	0
##	11.8	0	0	0	0
##	11.9	0	1	0	0
##	12	0	0	0	0
##	13.1	0	0	0	0
##	13.2	0	0	0	0
##	13.5	0	0	0	0
##	13.6	0	0	0	0
##	13.8	0	0	0	0
##	14.3	0	0	0	0
##	14.4 14.5	0	0	0	0
## ##	14.5 14.6	0	0	0	0
##	14.0	0	U	U	Ü

##	15.2	0	0	0	0
##	15.3	0	0	0	0
##	16.1	0	0	0	0
##	16.2	0	0	0	0
##	16.8	0	0	0	0
##	17.1	0	0	0	0
##	17.5	0	0	0	0
##	17.6	0	0	0	0
##	17.8	0	0	0	0
##	18.1	0	0	0	0
##	18.2	0	0	0	1
##	18.5	0	0	0	0
##	18.6	0	0	0	0
##	18.7	0	0	0	0
##	19.2	0	0	0	0
##	19.3	1	0	0	0
##	19.4	0	0	0	0
##	19.6	0	0	0	0
##	19.8	0	0	0	0
##	19.9	0	0	1	0
##	20	0	0	0	0
##	20.3	0	0	0	0
	20.5	0	0	0	0
##					
##	20.6	0	0	0	0
##	21.4	0	0	0	0
##	21.6	0	0	0	0
##	21.7	0	0	0	0
##	21.9	0	0	0	0
##	22.5	0	0	0	0
##	22.6	0	0	0	0
##	22.7	0	0	0	0
##	23	0	0	0	0
##	23.1	0	0	0	0
##	23.4	0	0	0	0
##	23.6	0	0	0	0
##	23.7	0	0	0	0
##	23.8	0	0	0	0
##	23.9	0	0	0	0
##	24.5	0	0	0	0
##	24.7	0	0	0	0
##	25	0	0	0	0
##	26.4	0	0	0	0
##	26.7	0	0	0	0
##	27.1	0	0	0	0
##	27.5	0	0	0	0
##	27.9	0	0	0	0
##	28.6	0	0	0	0
##	29.6	0	0	0	0
##	29.8	0	0	0	0
##	30.8	0	0	0	0
##	31.6	0	0	0	0
##	33.2	0	0	0	0
##	33.3	0	0	0	0
##	33.4	0	0	0	0

##	34.7	0	0	0	0
##	36	0	0	0	0
##	36.2	0	0	0	0
##	36.5	0	0	0	0
##	37.3	0	0	0	0
##	41.3	0	0	0	0
##	43.1	0	0	0	0
##	46	0	0	0	0
##	50	0	0	0	0
##	pr				
##			19.4107381565528		
##	5	0	0	0	0
## ##	7 7.2	0	0	0	0
##	8.4	0	0	0	0
##	8.5	0	0	0	0
##	10.4	0	0	0	0
##	10.5	0	0	0	0
##	11.5	0	0	0	0
##	11.8	0	0	0	0
##	11.9	0	0	0	0
##	12	0	0	0	0
##	13.1	0	0	0	0
##	13.2	0	0	0	0
##	13.5	0	0	0	0
##	13.6	0	0	0	0
##	13.8	0	0	0	0
##	14.3	0	0	0	0
##	14.4	0	0	0	0
##	14.5	0	0	0	0
##	14.6	0	0	0	0
##	15.2	0	0	0	0
##	15.3	0	0	0	0
##	16.1	0	0	0	0
## ##	16.2 16.8	0	0	0	0
##	17.1	0	0	1	0
##	17.5	0	0	0	0
##	17.6	0	0	0	0
##	17.8	0	0	0	0
##	18.1	0	0	0	0
##	18.2	0	0	0	0
##	18.5	0	0	0	0
##	18.6	0	0	0	0
##	18.7	0	0	0	0
##	19.2	0	0	0	0
##	19.3	0	0	0	0
##	19.4	0	0	0	1
##	19.6	0	0	0	0
##	19.8	0	0	0	0
##	19.9	0	0	0	0
##	20	0	0	0	0
##	20.3	0	0	0	0
##	20.5	0	0	0	0

##	20.6	0	0	0	0
##	21.4	0	0	0	0
##	21.6	0	0	0	0
##	21.7	0	0	0	0
##	21.9	0	0	0	0
##	22.5	0	0	0	0
##	22.6	0	0	0	0
##	22.7	0	0	0	0
##	23	0	0	0	0
##	23.1	0	0	0	0
##	23.4	0	0	0	0
##	23.6	0	0	0	0
##	23.7	0	0	0	0
##	23.8	0	0	0	0
##	23.9	0	0	0	0
##	24.5	0	0	0	0
##	24.7	0	0	0	0
##	25	0	0	0	0
##	26.4	0	0	0	0
##	26.7	0	0	0	0
##	27.1	0	0	0	0
##	27.5	0	0	0	0
##	27.9	0	0	0	0
##	28.6	0	0	0	0
##	29.6	0	0	0	0
##	29.8	0	0	0	0
##	30.8	0	0	0	0
##	31.6	0	0	0	0
##	33.2	0	0	0	0
##	33.3	0	0	0	0
##	33.4	0	0	0	0
##	34.7	0	0	0	0
##	36	0	0	0	0
##	36.2	0	0	0	0
##	36.5	0	0	0	0
##	37.3	0	0	0	0
##	41.3	0	0	0	0
##	43.1	0	0	0	0
##	46	0	0	0	0
##	50	1	0	0	0
##	pred				
			19.8058977229365	19.9246697622746	20.1546826717785
##	5	0	0	0	0
##	7	0	0	0	0
##	7.2	0	0	0	0
##	8.4	0	0	0	0
##	8.5	0	0	0	0
##	10.4	0	0	0	0
##	10.5	0	0	0	0
##	11.5	0	0	0	0
##	11.8	0	0	0	0
##	11.9	0	0	0	0
##	12	0	0	0	0
##	13.1	0	0	0	0

##	13.2	0	0	0	0
##	13.5	0	0	0	0
##	13.6	0	0	0	0
##	13.8	0	0	1	0
##	14.3	0	0	0	0
##	14.4	0	0	0	0
##	14.5				
		0	0	0	0
##	14.6	0	0	0	0
##	15.2	0	0	0	0
##	15.3	0	0	0	0
##	16.1	0	0	0	0
##	16.2	0	0	0	0
##	16.8	0	0	0	0
##	17.1	0	0	0	0
##	17.5	0	0	0	0
##	17.6	0	0	0	0
##	17.8	0	0	0	0
##	18.1	0	0	0	0
##	18.2	0	0	0	0
##	18.5	0	0	0	0
##	18.6	0	0	0	0
##	18.7	0	0	0	0
##	19.2	0	0	0	0
##	19.3	0	0	0	0
##	19.4	0	0	0	0
##	19.6	0	0	0	0
##	19.8	0	0	0	0
##	19.9	0	0	0	0
##	20	0	0	0	0
##	20.3	0	0	0	0
##	20.5	0	0	0	0
##	20.6	1	0	0	0
##	21.4	0	0	0	0
##	21.6	0	0	0	0
##	21.7	0	0	0	1
##	21.9	0	1	0	0
##	22.5	0	0	0	0
##	22.6	0	0	0	0
##	22.7	0	0	0	0
##	23	0	0	0	0
##	23.1	0	0	0	0
##	23.4	0	0	0	0
##	23.6	0	0	0	0
##	23.7	0	0	0	0
##	23.8	0	0	0	0
##	23.9	0	0	0	0
##	24.5	0	0	0	0
##	24.7	0	0	0	0
##	25	0	0	0	0
##	26.4	0	0	0	0
##	26.7	0	0	0	0
##	27.1	0	0	0	0
##	27.5	0	0	0	0
##	27.9	0	0	0	0
	20	•	•	•	J

##	28.6	0	0	0	0
##	29.6	0	0	0	0
##	29.8	0	0	0	0
##	30.8	0	0	0	0
##	31.6	0	0	0	0
##	33.2	0	0	0	0
##	33.3	0	0	0	0
##	33.4	0	0	0	0
##	34.7	0	0	0	0
##	36	0	0	0	0
##	36.2	0	0	0	0
##	36.5	0	0	0	0
##	37.3	0	0	0	0
##	41.3	0	0	0	0
##	43.1	0	0	0	0
##	46	0	0	0	0
##	50	0	0	0	0
##]	pred			
##	true	20.5051764513493	20.6577449678217	20.6631860204387	20.7123072719266
##	5	0	0	0	0
##	7	0	0	0	0
##	7.2	0	0	0	0
##	8.4	0	0	0	0
##	8.5	0	0	0	0
##	10.4	0	0	0	0
##	10.5	0	0	0	0
##	11.5	0	0	0	0
##	11.8	0	0	0	0
##	11.9	0	0	0	0
##	12	0	0	0	0
##	13.1 13.2	0	0	0	0
## ##	13.5	0	0	0	0
##	13.6	0	0	0	0
##	13.8	0	0	0	0
##	14.3	0	0	0	0
##	14.4	0	0	0	0
##	14.5	0	0	0	0
##	14.6	0	0	0	0
##	15.2	0	0	0	0
##	15.3	0	0	0	0
##	16.1	0	0	0	0
##	16.2	0	0	0	0
##	16.8	0	0	0	0
##	17.1	0	0	0	0
##	17.5	0	0	0	0
##	17.6	0	0	0	0
##	17.8	0	0	0	0
##	18.1	0	0	0	0
##	18.2	0	0	0	0
##	18.5	0	0	0	0
##	18.6	0	0	0	0
##	18.7	0	0	0	0
##	19.2	0	0	0	0

шш	10.0	2	0	4	0
## ##	19.3 19.4	0 0	0 0	1 0	0
##	19.4	0	0	0	0
##	19.8	0	0	0	
##	19.0	0	0	0	1 0
##	20	0	0	0	0
##	20.3	0	0	0	0
##	20.5	0	1	0	0
##	20.6	0	0	0	0
##	21.4	0	0	0	0
##	21.6	1	0	0	0
##	21.7	0	0	0	0
##	21.9	0	0	0	0
##	22.5	0	0	0	0
##	22.6	0	0	0	0
##	22.7	0	0	0	0
##	23	0	0	0	0
##	23.1	0	0	0	0
##	23.4	0	0	0	0
##	23.6	0	0	0	0
##	23.7	0	0	0	0
##	23.8	0	0	0	0
##	23.9	0	0	0	0
##	24.5	0	0	0	0
##	24.7	0	0	0	0
##	25	0	0	0	0
##	26.4	0	0	0	0
##	26.7	0	0	0	0
##	27.1	0	0	0	0
##	27.5	0	0	0	0
##	27.9	0	0	0	0
##	28.6	0	0	0	0
##	29.6	0	0	0	0
##	29.8	0	0	0	0
##	30.8	0	0	0	0
##	31.6	0	0	0	0
##	33.2	0	0	0	0
##	33.3	0	0	0	0
##	33.4	0	0	0	0
##	34.7	0	0	0	0
##	36	0	0	0	0
##	36.2	0	0	0	0
##	36.5	0	0	0	0
##	37.3	0	0	0	0
##	41.3	0	0	0	0
##	43.1	0	0	0	0
##	46	0	0	0	0
##	50	0	0	0	0
##	pred	•	· ·	v	v
##	-	.795633620736 21.299136	30479821 21 4936F	502003207 21 792141	1644268
##	5	0	0	0	0
##	7	0	0	0	0
##	7.2	0	0	0	0
##	8.4	0	0	0	0
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##	8.5	0	0	0	0
##	10.4	0	0	0	0
##	10.5	0	0	0	0
##	11.5	0	0	0	0
##	11.8	0	0	0	0
##	11.9	0	0	0	0
##	12	0	0	0	0
##	13.1	0	0	0	0
##	13.2	0	0	0	0
##	13.5	0	0	0	0
##	13.6	0	0	0	0
##	13.8	0	0	0	0
##	14.3	0	0	0	0
##	14.4	0	0	0	0
##	14.5	0	0	0	0
##	14.6	0	0	0	0
##	15.2	0	0	0	0
##	15.3 16.1	0	0	0	0
## ##	16.1	0	0	0	0
##	16.8	0	0	0	0
##	17.1	0	0	0	0
##	17.5	0	0	0	0
##	17.6	0	0	0	0
##	17.8	0	0	0	0
##	18.1	0	0	0	0
##	18.2	0	0	0	0
##	18.5	0	0	0	0
##	18.6	0	0	0	0
##	18.7	0	0	0	0
##	19.2	0	0	0	0
##	19.3	0	0	0	0
##	19.4	0	0	0	0
##	19.6	0	0	0	0
##	19.8	0	0	0	0
##	19.9	0	0	0	0
##	20	0	0	0	0
##	20.3	1	0	0	1
##	20.5	0	0	0	0
##	20.6	0	0	1	0
##	21.4	0	0	0	0
##	21.6	0	0	0	0
##	21.7	0	0	0	0
##	21.9	0	0	0	0
##	22.5	0	0	0	0
##	22.6	0	1	0	0
##	22.7	0	0	0	0
##	23	0	0	0	0
##	23.1	0	0	0	0
##	23.4	0	0	0	0
##	23.6	0	0	0	0
## ##	23.7 23.8	0	0	0	0
##	23.8	0	0	0	0
ππ	20.0	V	V	•	U

##	24.5	0	0	0	0
##	24.7	0	0	0	0
##	25	0	0	0	0
##	26.4	0	0	0	0
##	26.7	0	0	0	0
##	27.1	0	0	0	0
##	27.5	0	0	0	0
##	27.9	0	0	0	0
##	28.6	0	0	0	0
##	29.6	0	0	0	0
##	29.8	0	0	0	0
##	30.8	0	0	0	0
##	31.6	0	0	0	0
##	33.2	0	0	0	0
##	33.3	0	0	0	0
##	33.4	0	0	0	0
##	34.7	0	0	0	0
##	36	0	0	0	0
##	36.2	0	0	0	0
##	36.5	0	0	0	0
##	37.3	0	0	0	0
##	41.3	0	0	0	0
##	43.1	0	0	0	0
##	46	0	0	0	0
##	50	0	0	0	0
##	pred			222524222 22 2522	05400450
##		9190793716425 22.1722			
##	5	0	0	0	0
##	7	0	0	0	0
## ##	7.2 8.4	0	0 0	0 0	0
##	8.5	0	0	0	0
##	10.4	0	0	0	0
##	10.4	0	0	0	0
##	11.5	0	0	0	0
##	11.8	0	0	0	0
##	11.9	0	0	0	0
##	12	0	0	0	0
##	13.1	0	0	0	0
##	13.2	0	0	0	0
##	13.5	0	0	0	0
##	13.6	0	0	0	0
##	13.8	0	0	0	0
##	14.3	0	0	0	0
##	14.4	0	0	0	0
##	14.5	0	0	0	0
##	14.6	0	0	0	0
##	15.2	0	0	0	0
##	15.3	0	0	0	0
##	16.1	0	0	0	0
##					
II TT	16.2	0	0	0	0
##	16.2 16.8	0	0	0	0
	16.2 16.8 17.1	0 0	0		0 0
##	16.2 16.8	0	0	0	0

##	17.6	0	0	0	0
##	17.8	0	0	0	0
##	18.1	0	0	0	0
##	18.2	0	0	0	0
##	18.5	0	0	0	0
##	18.6	0	0	0	0
##	18.7	0	0	0	0
##	19.2	0	0	0	0
##	19.3	0	0	0	0
##	19.4	0	0	0	0
##	19.6	0	0	1	0
##	19.8	0	0	0	0
##	19.9	0	0	0	0
##	20	0	0	0	0
##	20.3	0	0	0	0
##	20.5	0	0	0	0
##	20.6	0	0	0	0
##	21.4	0	0	0	1
##	21.6	0	0	0	0
##	21.7	0	0	0	0
##	21.9	0	0	0	0
##	22.5	0	0	0	0
##	22.6	0	0	0	0
##	22.7	0	0	0	0
##	23	0	0	0	0
##	23.1	0	0	0	0
##	23.4	0	0	0	0
##	23.6	0	0	0	0
##	23.7	1	0	0	0
##	23.8	0	0	0	0
##	23.9	0	1	0	0
##	24.5	0	0	0	0
##	24.7 25	0	0	0	0
##		0	0	0	0
## ##	26.4 26.7	0	0	0	0
##	27.1	0	0	0	0
##	27.5	0	0	0	0
##	27.9	0	0	0	0
##	28.6	0	0	0	0
##	29.6	0	0	0	0
##	29.8	0	0	0	0
##	30.8	0	0	0	0
##	31.6	0	0	0	0
##	33.2	0	0	0	0
##	33.3	0	0	0	0
##	33.4	0	0	0	0
##	34.7	0	0	0	0
##	36	0	0	0	0
##	36.2	0	0	0	0
##	36.5	0	0	0	0
##	37.3	0	0	0	0
##	41.3	0	0	0	0
##	43.1	0	0	0	0

## true	## ##	46 50	(0 0
## true				J (,	0
## 5 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0			_	22 5662676914778	22 6273453748541	22 8486368234441
## 7.2 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0						
## 7.2						
## 8.4						
## 8.5 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0						
## 10.4						
## 10.5 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0						
## 11.5 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0						
## 11.8						
## 11.9	##			0	0	0
## 12 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0	##			0	0	0
## 13.2 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0	##			0	0	0
## 13.5 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0	##	13.1	0	0	0	0
## 13.6 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0	##	13.2	0	0	0	0
## 13.8 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0	##	13.5	0	0	0	0
## 14.3	##	13.6	0	0	0	0
## 14.4 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0	##	13.8	0	0	0	0
## 14.5 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0	##	14.3	0	0	0	0
## 14.6	##	14.4	0	0	0	0
## 15.2 0 0 0 0 0 0 0 0 0 ## 15.3 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0	##	14.5	0	0	0	0
## 15.3	##			0	0	0
## 16.1 0 0 0 0 0 0 0 0 0 ## 16.2 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0					0	0
## 16.2						
## 16.8						
## 17.1 0 0 0 0 0 0 0 0 0 ## 17.5 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0						
## 17.5 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0						
## 17.6 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0						
## 17.8						
## 18.1 0 0 0 0 0 0 0 0 0 ## 18.2 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0						
## 18.2 0 0 0 0 0 0 0 0 ## 18.5 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0						
## 18.5 0 0 0 0 0 0 0 0 ## 18.6 1 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0						
## 18.6						
## 18.7 0 0 0 0 ## 19.2 0 0 0 0 ## 19.3 0 0 0 0 ## 19.4 0 0 0 0 ## 19.6 0 0 0 0 ## 19.8 0 0 0 0 ## 20 0 0 0 0 ## 20.3 0 0 0 0 ## 20.5 0 0 0 0 ## 20.6 0 0 0 0 ## 21.4 0 0 0 0 ## 21.6 0 0 0 0 ## 21.7 0 0 0 0 ## 21.9 0 0 0 0 ## 22.5 0 0 0 0						
## 19.2 0 0 0 0 ## 19.3 0 0 0 0 ## 19.4 0 0 0 0 ## 19.6 0 0 0 0 ## 19.8 0 0 0 0 ## 19.9 0 0 0 0 ## 20 0 0 0 0 ## 20.3 0 0 0 0 ## 20.5 0 0 0 0 ## 20.6 0 0 0 0 ## 21.4 0 0 0 0 ## 21.6 0 0 0 0 ## 21.7 0 0 0 0 ## 21.9 0 0 0 0 ## 22.5 0 0 0 0				_	_	_
## 19.3 0 0 0 0 ## 19.4 0 0 0 0 ## 19.6 0 0 0 0 ## 19.8 0 0 0 0 ## 19.9 0 0 0 0 ## 20 0 0 0 0 ## 20.3 0 0 0 0 ## 20.5 0 0 0 0 ## 21.4 0 0 0 0 ## 21.6 0 0 0 0 ## 21.7 0 0 0 0 ## 21.9 0 0 0 0 ## 22.5 0 0 1 0						
## 19.4 0 0 0 0 ## 19.6 0 0 0 0 ## 19.8 0 0 0 0 ## 19.9 0 0 0 0 ## 20 0 0 0 0 ## 20.3 0 0 0 0 ## 20.5 0 0 0 0 ## 20.6 0 0 0 0 ## 21.4 0 0 0 0 ## 21.6 0 0 0 0 ## 21.7 0 0 0 0 ## 21.9 0 0 0 0 ## 22.5 0 0 1 0						
## 19.6 0 0 0 0 ## 19.8 0 0 0 0 ## 19.9 0 0 0 0 ## 20 0 0 0 0 ## 20.3 0 0 0 0 ## 20.5 0 0 0 0 ## 20.6 0 0 0 0 ## 21.4 0 0 0 0 ## 21.6 0 0 0 0 ## 21.7 0 0 0 0 ## 21.9 0 0 0 0 ## 22.5 0 0 1 0						
## 19.8 0 0 0 0 ## 19.9 0 0 0 0 ## 20 0 0 0 0 ## 20.3 0 0 0 0 ## 20.5 0 0 0 0 ## 20.6 0 0 0 0 ## 21.4 0 0 0 0 ## 21.6 0 0 0 0 ## 21.7 0 0 0 0 ## 21.9 0 0 0 0 ## 22.5 0 0 1 0						
## 19.9 0 0 0 0 ## 20 0 0 0 0 ## 20.3 0 0 0 0 ## 20.5 0 0 0 0 ## 20.6 0 0 0 0 ## 21.4 0 0 0 0 ## 21.6 0 0 0 0 ## 21.7 0 0 0 0 ## 21.9 0 0 0 0 ## 22.5 0 0 1 0						
## 20 0 0 0 0 0 0 0 0 0 ## 20.3 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0						
## 20.3 0 0 0 0 0 0 0 0 ## 20.5 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0						
## 20.5 0 0 0 0 0 0 0 0 ## 21.9 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0						
## 20.6 0 0 0 0 0 1 ## 21.4 0 0 0 0 0 0 ## 21.6 0 0 0 0 0 ## 21.7 0 0 0 0 0 ## 21.9 0 0 0 0 ## 22.5 0 0 0 1						
## 21.4 0 0 0 0 0 0 0 0 ## 21.6 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0						
## 21.6 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0						
## 21.7 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0						
## 21.9 0 0 0 0 ## 22.5 0 0 1 0						
## 22.5 0 0 1 0						
## 22.6 0 0 0	##				1	0
	##	22.6	0	0	0	0

		•	•	•	•
##	22.7	0	0	0	0
##	23	0	0	0	0
##	23.1	0	0	0	0
##	23.4	0	0	0	0
##	23.6	0	0	0	0
##	23.7	0	0	0	0
##	23.8	0	0	0	0
##	23.9	0	0	0	0
##	24.5	0	0	0	0
##	24.7	0	1	0	0
##	25	0	0	0	0
##	26.4	0	0	0	0
##	26.7	0	0	0	0
##	27.1	0	0	0	0
##	27.5	0	0	0	0
##	27.9	0	0	0	0
##	28.6	0	0	0	0
##	29.6	0	0	0	0
##	29.8	0	0	0	0
##	30.8	0	0	0	0
##	31.6	0	0	0	0
	33.2	0	0	0	
##					0
##	33.3	0	0	0	0
##	33.4	0	0	0	0
##	34.7	0	0	0	0
##	36	0	0	0	0
##	36.2	0	0	0	0
##	36.5	0	0	0	0
##	37.3	0	0	0	0
##	41.3	0	0	0	0
##	43.1	0	0	0	0
##	46	0	0	0	0
##	50	0	0	0	0
##		pred	00 4500007450500	00 7540405040404	00 774047447740
##	true 5		23.1583967450569		
##	5 7	0	0	0	0
	7.2	0			
## ##	8.4	0	0	0	0
##	8.5	0	0	0	0
##	10.4	0	0	0	0
##	10.4	0	0	0	0
##	11.5	0	0	0	0
##	11.8	0	0	0	0
##	11.9	0	0	0	0
##	12	0	0	0	0
##	13.1	0	0	0	0
##	13.1	0	0	0	0
##	13.2	0	0	0	0
##	13.5	0	0	0	0
##	13.8	0	0	0	0
##	14.3	0	0	0	0
##					
	1/1 //	<i>(</i> 1)	<i>(</i> 1)		/)
##	14.4 14.5	0	0	0	0

##	14.6	0	0	0	0
##	15.2	0	0	0	0
##	15.3	0	0	0	0
##	16.1	0	0	0	0
##	16.2	0	0	0	0
##	16.8	0	0	0	0
##	17.1	0	0	0	0
##	17.5	0	0	0	0
##	17.6	0	0	0	0
##	17.8	0	0	0	0
##	18.1	0	0	0	0
##	18.2	0	0	0	0
##	18.5	0	0	0	0
##	18.6	0	0	0	0
##	18.7	0	0	0	0
##	19.2	0	0	0	0
##	19.3	0	0	0	0
##	19.4	0	0	0	0
##	19.6	0	0	0	0
##	19.8	0	0	0	0
##	19.9	0	0	0	0
##	20	0	0	0	0
##	20.3	0	0	0	0
##	20.5	0	0	0	0
##	20.6	0	0	0	0
##	21.4	0	0	0	0
##	21.6 21.7	0	0	0	0
## ##	21.7	0	0	0	0
##	22.5	0	0	0	0
##	22.6	0	0	0	0
##	22.7	0	0	0	0
##	23	0	1	0	1
##	23.1	0	0	0	0
##	23.4	0	0	0	0
##	23.6	0	0	0	0
##	23.7	0	0	0	0
##	23.8	0	0	1	0
##	23.9	0	0	0	0
##	24.5	0	0	0	0
##	24.7	0	0	0	0
##	25	0	0	0	0
##	26.4	0	0	0	0
##	26.7	0	0	0	0
##	27.1	0	0	0	0
##	27.5	0	0	0	0
##	27.9	0	0	0	0
##	28.6	0	0	0	0
##	29.6	0	0	0	0
##	29.8	1	0	0	0
##	30.8	0	0	0	0
##	31.6	0	0	0	0
##	33.2	0	0	0	0
##	33.3	0	0	0	0

##	33.4	0	0	0	0
##	34.7	0	0	0	0
##	36	0	0	0	0
##	36.2	0	0	0	0
##	36.5	0	0	0	0
##	37.3	0	0	0	0
##	41.3	0	0	0	0
## ##	43.1 46	0	0	0	0
##	50	0	0	0	0
##		pred	O	O	U
##	true		24.3015135014542	24 .3593511800499	24 5510987380629
##	5	0	0	0	0
##	7	0	0	0	0
##	7.2	0	0	0	0
##	8.4	0	0	0	0
##	8.5	0	0	0	0
##	10.4	0	0	0	0
##	10.5	0	0	0	0
##	11.5	0	0	0	0
##	11.8	0	0	0	0
##	11.9	0	0	0	0
##	12	0	0	0	0
##	13.1	0	0	0	0
##	13.2	0	0	0	0
##	13.5	0	0	0	0
##	13.6	0	0	0	0
##	13.8	0	0	0	0
##	14.3	0	0	0	0
## ##	14.4 14.5	0	0	0	0
##	14.5	0	0	0	0
##	15.2	0	0	0	0
##	15.3	0	0	0	0
##	16.1	0	0	0	0
##	16.2	0	0	0	0
##	16.8	0	0	0	0
##	17.1	0	0	0	0
##	17.5	0	0	0	0
##	17.6	0	0	0	0
##	17.8	0	0	0	0
##	18.1	0	0	0	0
##	18.2	0	0	0	0
##	18.5	0	0	0	0
##	18.6	0	0	0	0
##	18.7	0	0	0	0
##	19.2	0	0	0	0
##	19.3	0	0	0	0
##	19.4	0	0	0	0
## ##	19.6 19.8	0	0	0	0
##	19.8	0	0	0	0
##	20	0	0	0	0
##	20.3	0	0	0	0
	20.0	· ·	O	· ·	Ŭ

##	20.5	0	0	0	0
##	20.6	0	0	0	0
##	21.4	0	0	0	0
##	21.6	0	0	0	0
##	21.7	0	0	0	0
##	21.9	0	0	0	0
##	22.5	0	0	0	0
##	22.6	0	0	0	0
##	22.7	0	0	0	0
##	23	0	0	0	0
##	23.1	0	0	1	0
##	23.4	0	1	0	0
##	23.6	0	0	0	0
##	23.7	0	0	0	0
##	23.8	0	0	0	0
##	23.9	0	0	0	0
##	24.5	1	0	0	0
##	24.7	0	0	0	0
##	25	0	0	0	1
##	26.4	0	0	0	0
##	26.7	0	0	0	0
##	27.1	0	0	0	0
##	27.5	0	0	0	0
##	27.9	0	0	0	0
##	28.6	0	0	0	0
##	29.6	0	0	0	0
##	29.8	0	0	0	0
##	30.8	0	0	0	0
##	31.6	0	0	0	0
##	33.2	0	0	0	0
##	33.3	0	0	0	0
##	33.4	0	0	0	0
##	34.7	0	0	0	0
##	36 36.2	0	0	0	0
## ##	36.2 36.5	0	0	0	0
##	37.3	0	0	0	0
##	41.3	0	0	0	0
##	43.1	0	0	0	0
##	46	0	0	0	0
##	50	0	0	0	0
##		ed	· ·	· ·	v
##			25.5732369338361	26.1990984967165	26.2857088629334
##	5	0	0	0	0
##	7	0	0	0	0
##	7.2	0	0	0	0
##	8.4	0	0	0	0
##	8.5	0	0	0	0
##	10.4	0	0	0	0
##	10.5	0	0	0	0
##	11.5	0	0	0	0
##	11.8	0	0	0	0
##	11.9	0	0	0	0
##	12	0	0	0	0

##	13.1	0	0	0	0
##	13.2	0	0	0	0
##	13.5	0	0	0	0
##	13.6	0	0	0	0
##	13.8	0	0	0	0
##	14.3	0	0	0	0
##	14.4	0	0	0	0
##	14.5	0	0	0	0
##	14.6	0		0	0
##	15.2	0	0	0	0
		0		0	0
##	15.3		0		
##	16.1	0	0	0	0
##	16.2	0	0	0	0
##	16.8	0	0	0	0
##	17.1	0	0	0	0
##	17.5	0	0	0	0
##	17.6	0	0	0	0
##	17.8	0	0	0	0
##	18.1	0	0	0	0
##	18.2	0	0	0	0
##	18.5	0	0	0	0
##	18.6	0	0	0	0
##	18.7	0	0	0	0
##	19.2	0	0	0	0
##	19.3	0	0	0	0
##	19.4	0	0	0	0
##	19.6	0	0	0	0
##	19.8	0	0	0	0
##	19.9	0	0	0	0
##	20	0	0	0	0
##	20.3	0	0	0	0
##	20.5	0	0	0	0
##	20.6	0	0	0	0
##	21.4	0	0	0	0
##	21.6	0	0	0	0
##	21.7	0	0	0	0
##	21.9	0	0	0	0
##	22.5	0	0	0	0
##	22.6	0	0	0	0
##	22.7	0	0	0	0
##	23	0	1	0	0
##	23.1	0	0	0	0
##	23.4	0	0	0	0
##	23.6	0	0	0	0
##	23.7	0	0	0	0
##	23.8	0	0	0	0
##	23.9	0	0	0	0
##	24.5	0	0	0	0
##	24.7	0	0	0	0
##	25	0	0	0	0
##	26.4	0	0	0	1
##	26.7	0	0	0	0
##	27.1	1	0	0	0
##	27.5	0	0	0	0

##	27.9	0	0	0	0
##	28.6	0	0	1	0
##	29.6	0	0	0	
##	29.8		0	0	0
	30.8	0			0
##		0	0	0	0
##	31.6	0	0	0	0
##	33.2	0	0	0	0
##	33.3	0	0	0	0
##	33.4	0	0	0	0
##	34.7	0	0	0	0
##	36	0	0	0	0
##	36.2	0	0	0	0
##	36.5	0	0	0	0
##	37.3	0	0	0	0
##	41.3	0	0	0	0
##	43.1	0	0	0	0
##	46	0	0	0	0
##	50	0	0	0	0
##]	pred			
##	true			27.6905011906444	28.0422720924112
##	5	0	0	0	0
##	7	0	0	0	0
##	7.2	0	0	0	0
##	8.4	0	0	0	0
##	8.5	0	0	0	0
##	10.4	0	0	0	0
##	10.5	0	0	0	0
##	11.5	0	0	0	0
##	11.8	0	0	0	0
##	11.9	0	0	0	0
##	12	0	0	0	0
##	13.1	0	0	0	0
##	13.2	0	0	0	0
##	13.5	0	0	0	0
##	13.6	0	0	0	0
##	13.8	0	0	0	0
##	14.3	0	0	0	0
##	14.4	0	0	0	0
##	14.5	0	0	0	0
##	14.6	0	0	0	0
##	15.2	0	0	0	0
##	15.3	0	0	0	0
##	16.1	0	0	0	0
##	16.2	0	0	0	0
##	16.8	0	0	0	0
##	17.1	0	0	0	0
##	17.5	0	0	0	0
##	17.6	0	0	0	0
##	17.8	0	0	0	0
##	18.1	0	0	0	0
##	18.2	0	0	0	0
##	18.5	0	0	0	0
##	18.6	0	0	0	0
##	18.7	0	0	0	0
	-0.1	v	O .	O .	v

##	19.2	0	0	0	0
##	19.3	0	0	0	0
##	19.4	0	0	0	0
##	19.6	0	0	0	0
##	19.8	0	0	0	0
##	19.9	0	0	0	0
##	20	0	0	0	0
##	20.3	0	0	0	0
##	20.5	0	0	0	0
##	20.6	0	0	0	0
##	21.4	0	0	0	0
##	21.4	0	0	0	0
##	21.7	0	0	0	0
##		0	0	0	0
##	21.9 22.5	0	0	0	0
	22.6				
##	22.7	0	0	0	0
##	23	0	0	0	0
## ##	23 23.1	0 0	0 0	0 0	0
##	23.4	0	0		
##	23.4	0	0	0	0
##	23.7	0	0	1 0	0
					0
##	23.8	0	0	0	0
##	23.9	0	0	0	0
##	24.5	0	0	0	0
##	24.7	0	0	0	0
##	25	0	0	0	0
##	26.4	0	0	0	0
##	26.7	0	0	0	0
##	27.1	0	0	0	0
##	27.5	0	0	0	0
##	27.9 28.6	0	0	0	0
## ##	29.6	0	0	0	0
##	29.8	1 0	0	0	0
##	30.8	0	0 0	0	0 1
##	31.6	0	0	0	0
##	33.2	0	0	0	0
##	33.3	0	0	0	0
##	33.4	0	0	0	0
##	34.7	0	0	0	0
##	36	0	0	0	0
##	36.2	0	0	0	0
##	36.5	0	0	0	0
##	37.3	0	0	0	0
##	41.3	0	0	0	0
##	43.1	0	0	0	0
##	46	0	0	0	0
##	50	0	1	0	0
##	pred	V	1	J	J
##		2665017 31.230	07271374787 31.2917	36858072 31 471894	16570604
##	5	0	0	0	0
##	7	0	0	0	0
##	7.2	0	0	0	0

##	8.4	0	0	0	0
##	8.5	0	0	0	0
##	10.4	0	0	0	0
##	10.5	0	0	0	0
##	11.5	0	0	0	0
##	11.8	0	0	0	0
##	11.9	0	0	0	0
##	12	0	0	0	0
##	13.1	0	0	0	0
##	13.2	0	0	0	0
##	13.5	0	0	0	0
##	13.6	0	0	0	0
##	13.8	0	0	0	0
##	14.3	0	0	0	0
##	14.4	0	0	0	0
##	14.5	0	0	0	0
##	14.6	0	0	0	0
##	15.2	0	0	0	0
##	15.2	0	0	0	0
##	16.1	0	0	0	0
##	16.2	0	0	0	0
##	16.8	0	0	0	0
##	17.1	0	0	0	0
##	17.5	0	0	0	0
##	17.6	0	0	0	0
##	17.8	0	0	0	0
##	18.1	0	0	0	0
##	18.2	0	0	0	0
##	18.5	0	0	0	0
##	18.6	0	0	0	0
##	18.7	0	0	0	0
##	19.2	0	0	0	0
##	19.2	0	0	0	0
##	19.4	0	0	0	0
##	19.4	0	0	0	0
##	19.8	0	0	0	0
##	19.9	0	0	0	0
##	20	0	0	0	0
##	20.3	0	0	0	0
##	20.5	0	0	0	0
##	20.6	0	0	0	0
##	21.4	0	0	0	0
##	21.4	0	0	0	0
##	21.7	0	0	0	0
##	21.9	0	0	0	0
##	22.5	0	0	0	0
##	22.6	0	0	0	0
##	22.7	0	0	0	0
##	23	0	0	0	0
##	23.1	0	0	0	0
##	23.4	0	0	0	0
##	23.4	0	0	0	0
##	23.7	0	0	0	0
##	23.8	0	0	0	0
ππ	20.0	V	v	V	J

##	23.9	0	0	0	0
##	24.5	0	0	0	0
##	24.7	0	0	0	0
##	25	0	0	0	0
##	26.4	0	0	0	0
##	26.7	1	0	0	0
##	27.1	0	0	0	0
##	27.5	0	0	0	0
##	27.9	0	0	0	0
##	28.6	0	0	0	0
##	29.6	0	0	0	0
##	29.8	0	0	0	0
##	30.8	0	0	0	0
##	31.6	0	1	0	0
##	33.2	0	0	0	0
##	33.3	0	0	0	0
##	33.4	0	0	1	0
##	34.7	0	0	0	1
##	36	0	0	0	0
##	36.2	0	0	0	0
##	36.5	0	0	0	0
##	37.3	0	0	0	0
##	41.3	0	0	0	0
##	43.1	0	0	0	0
##	46	0	0	0	0
##	50	0	0	0	0
##	pre	d			
	-				
##	true 31	.5719925879816	32.6313713536693	33.3931107229457	33.7884973895489
## ##	true 31 5	.5719925879816 0	32.6313713536693	33.3931107229457 0	
					0
##	5	0	0	0	0
## ##	5 7	0	0	0	0 0 0
## ## ##	5 7 7.2 8.4 8.5	0 0 0	0 0 0	0 0 0	0 0 0 0
## ## ## ##	5 7 7.2 8.4 8.5 10.4	0 0 0	0 0 0	0 0 0 0	0 0 0 0
## ## ## ##	5 7 7.2 8.4 8.5 10.4 10.5	0 0 0 0	0 0 0 0	0 0 0 0	0 0 0 0 0
## ## ## ## ##	5 7 7.2 8.4 8.5 10.4 10.5 11.5	0 0 0 0 0	0 0 0 0 0	0 0 0 0 0	0 0 0 0 0
## ## ## ## ## ##	5 7 7.2 8.4 8.5 10.4 10.5 11.5	0 0 0 0 0	0 0 0 0 0	0 0 0 0 0	0 0 0 0 0 0
## ## ## ## ## ##	5 7 7.2 8.4 8.5 10.4 10.5 11.5 11.8	0 0 0 0 0 0 0	0 0 0 0 0 0 0	0 0 0 0 0 0 0	0 0 0 0 0 0 0
## ## ## ## ## ##	5 7 7.2 8.4 8.5 10.4 10.5 11.5 11.8 11.9	0 0 0 0 0 0 0 0	0 0 0 0 0 0 0 0	0 0 0 0 0 0 0 0	0 0 0 0 0 0 0 0
## ## ## ## ## ## ##	5 7 7.2 8.4 8.5 10.4 10.5 11.5 11.8 11.9 12	0 0 0 0 0 0 0 0	0 0 0 0 0 0 0 0	0 0 0 0 0 0 0 0	0 0 0 0 0 0 0 0
## ## ## ## ## ## ##	5 7 7.2 8.4 8.5 10.4 10.5 11.5 11.8 11.9 12 13.1 13.2	0 0 0 0 0 0 0 0	0 0 0 0 0 0 0 0 0	0 0 0 0 0 0 0 0 0	0 0 0 0 0 0 0 0
## ## ## ## ## ## ##	5 7 7.2 8.4 8.5 10.4 10.5 11.5 11.8 11.9 12 13.1 13.2 13.5	0 0 0 0 0 0 0 0 0	0 0 0 0 0 0 0 0 0 0	0 0 0 0 0 0 0 0 0 0	0 0 0 0 0 0 0 0 0
## ## ## ## ## ## ## ## ## ## ## ## ##	5 7 7.2 8.4 8.5 10.4 10.5 11.5 11.8 11.9 12 13.1 13.2 13.5 13.6	0 0 0 0 0 0 0 0 0	0 0 0 0 0 0 0 0 0 0	0 0 0 0 0 0 0 0 0 0	
######################################	5 7 7.2 8.4 8.5 10.4 10.5 11.5 11.8 11.9 12 13.1 13.2 13.5 13.6 13.8	0 0 0 0 0 0 0 0 0 0	0 0 0 0 0 0 0 0 0 0 0	0 0 0 0 0 0 0 0 0 0	
######################################	5 7 7.2 8.4 8.5 10.4 10.5 11.5 11.8 11.9 12 13.1 13.2 13.5 13.6 13.8 14.3		0 0 0 0 0 0 0 0 0 0 0 0	0 0 0 0 0 0 0 0 0 0 0 0	
######################################	5 7 7.2 8.4 8.5 10.4 10.5 11.5 11.8 11.9 12 13.1 13.2 13.5 13.6 13.8 14.3 14.4		0 0 0 0 0 0 0 0 0 0 0 0	0 0 0 0 0 0 0 0 0 0 0 0 0	
## ## ## ## ## ## ## ## ## ## ## ## ##	5 7 7.2 8.4 8.5 10.4 10.5 11.5 11.8 11.9 12 13.1 13.2 13.5 13.6 13.8 14.3 14.4 14.5		0 0 0 0 0 0 0 0 0 0 0 0 0 0	0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0	
######################################	5 7 7.2 8.4 8.5 10.4 10.5 11.5 11.8 11.9 12 13.1 13.2 13.5 13.6 13.8 14.3 14.4 14.5 14.6		0 0 0 0 0 0 0 0 0 0 0 0 0 0	0 0 0 0 0 0 0 0 0 0 0 0 0 0 0	
# # # # # # # # # # # # # # # # # # #	5 7 7.2 8.4 8.5 10.4 10.5 11.5 11.8 11.9 12 13.1 13.2 13.5 13.6 13.8 14.3 14.4 14.5 14.6 15.2			0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0	
#######################################	5 7 7.2 8.4 8.5 10.4 10.5 11.5 11.8 11.9 12 13.1 13.2 13.5 13.6 13.8 14.3 14.4 14.5 14.6 15.2 15.3				
#######################################	5 7 7.2 8.4 8.5 10.4 10.5 11.5 11.8 11.9 12 13.1 13.2 13.5 13.6 13.8 14.3 14.4 14.5 14.6 15.2 15.3 16.1				
##########################	5 7 7.2 8.4 8.5 10.4 10.5 11.5 11.8 11.9 12 13.1 13.2 13.5 13.6 13.8 14.3 14.4 14.5 14.6 15.2 15.3 16.1 16.2				
############################	5 7 7.2 8.4 8.5 10.4 10.5 11.5 11.8 11.9 12 13.1 13.2 13.5 13.6 13.8 14.3 14.4 14.5 14.6 15.2 15.3 16.1 16.2 16.8				
##########################	5 7 7.2 8.4 8.5 10.4 10.5 11.5 11.8 11.9 12 13.1 13.2 13.5 13.6 13.8 14.3 14.4 14.5 14.6 15.2 15.3 16.1 16.2				

##	17.5	0	0	0	0
##	17.6	0	0	0	0
##	17.8	0	0	0	0
##	18.1	0	0	0	0
##	18.2	0	0	0	0
##	18.5	0	0	0	0
##	18.6	0	0	0	0
##	18.7	0	0	0	0
##	19.2	0	0	0	0
##	19.3	0	0	0	0
##	19.4	0	0	0	0
##	19.6	0	0	0	0
##	19.8	0	0	0	0
##	19.9	0	0	0	0
##	20	0	0	0	0
##	20.3	0	0	0	0
##	20.5	0	0	0	0
##	20.6	0	0	0	0
##	21.4	0	0	0	0
##	21.6	0	0	0	0
##	21.7	0	0	0	0
##	21.9	0	0	0	0
##	22.5	0	0	0	0
##	22.6	0	0	0	0
##	22.7	0	0	0	0
##	23	0	0	0	0
##	23.1	0	0	0	0
##	23.4	0	0	0	0
##	23.6	0	0	0	0
##	23.7	0	0	0	0
##	23.8	0	0	0	0
##	23.9	0	0	0	0
##	24.5	0	0	0	0
##	24.7	0	0	0	0
##	25	0	0	0	0
##	26.4	0	0	0	0
##	26.7	0	0	0	0
##	27.1	0	0	0	0
##	27.5	0	0	0	0
##	27.9	0	0	0	0
##	28.6	0	0	0	0
##	29.6	0	0	0	0
##	29.8	0	0	0	0
##	30.8	0	0	0	0
##	31.6	0	0	0	0
##	33.2	0	0	0	0
##	33.3	0	0	0	0
##	33.4	0	0	0	0
##	34.7	0	0	0	0
##	36	0	0	0	1
##	36.2	1	0	0	0
##	36.5	0	0	1	0
##	37.3	0	1	0	0
##	41.3	0	0	0	0
##	71.0	V	V	V	U

## 50	## ##	43.1 46	0	0	0	0
## true 34.6794463797366 35.5564256432081 37.1123811893405 37.4661737282257 37.466173728257 37.466173728257 37.466173728257 37.466173728257 37.466173728257 37.466173728257 37.466173728257 37.466173728257 37.466173728257 37.466173728257 37.466173728257 37.466173728257 37.466173728257 37.466173728257 37.466173728257 37.466173728257 37.46617372825						
## true 34.6794463797366				-	-	-
## 7.2 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0	##	_		35.5564256432081	37.1123811893405	37.4661737282257
## 7.2	##	5	0	0	0	0
## 8.4	##		0	0	0	
## 8.5	##		0	0	0	
## 10.4 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0						
## 10.5 0 0 0 0 0 0 0 0 0 0 0 0 1 11.8 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0						
## 11.5 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0						
## 11.8						
## 11.9						
## 12 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0						
## 13.1 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0						
## 13.2						
## 13.5 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0						
## 13.6 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0						
## 14.4 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0	##		0			
## 14.4 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0	##	13.8	0	0	0	0
## 14.5 0 0 0 0 0 0 0 0 0 ## 14.6 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0	##	14.3	0	0	0	0
## 14.6	##	14.4	0	0	0	0
## 15.2	##		0	0	0	
## 15.3						
## 16.1 0 0 0 0 0 0 0 0 ## 16.2 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0						
## 16.2						
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## 17.1 0 0 0 0 0 0 0 0 0 ## 17.5 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0						
## 17.5 0 0 0 0 0 0 0 0 0 ## 17.6 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0						
## 17.6 0 0 0 0 0 0 0 0 ## 17.8 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0						
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## 18.1 0 0 0 0 0 0 0 0 0 ## 18.2 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0						
## 18.2 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0						
## 18.6 0 0 0 0 ## 18.7 0 0 0 0 ## 19.2 0 0 0 0 ## 19.3 0 0 0 0 ## 19.4 0 0 0 0 ## 19.6 0 0 0 0 ## 19.8 0 0 0 0 ## 20 0 0 0 0 ## 20.3 0 0 0 0 ## 20.5 0 0 0 0 ## 20.6 0 0 0 0 ## 21.4 0 0 0 0 ## 21.6 0 0 0 0 ## 21.7 0 0 0 0 ## 21.9 0 0 0 0	##		0	0	0	
## 18.7 0 0 0 0 ## 19.2 0 0 0 0 ## 19.3 0 0 0 0 ## 19.4 0 0 0 0 ## 19.6 0 0 0 0 ## 19.8 0 0 0 0 ## 20 0 0 0 0 ## 20.3 0 0 0 0 ## 20.5 0 0 0 0 ## 20.6 0 0 0 0 ## 21.4 0 0 0 0 ## 21.6 0 0 0 0 ## 21.7 0 0 0 0 ## 21.9 0 0 0 0	##	18.5	0	0	0	0
## 19.2 0 0 0 0 ## 19.3 0 0 0 0 ## 19.4 0 0 0 0 ## 19.6 0 0 0 0 ## 19.8 0 0 0 0 ## 19.9 0 0 0 0 ## 20 0 0 0 0 ## 20.3 0 0 0 0 ## 20.5 0 0 0 0 ## 20.6 0 0 0 0 ## 21.4 0 0 0 0 ## 21.6 0 0 0 0 ## 21.7 0 0 0 0 ## 21.9 0 0 0 0	##	18.6	0	0	0	0
## 19.3 0 0 0 0 ## 19.4 0 0 0 0 ## 19.6 0 0 0 0 ## 19.8 0 0 0 0 ## 20 0 0 0 0 ## 20.3 0 0 0 0 ## 20.5 0 0 0 0 ## 20.6 0 0 0 0 ## 21.4 0 0 0 0 ## 21.6 0 0 0 0 ## 21.7 0 0 0 0 ## 21.9 0 0 0 0						
## 19.4 0 0 0 0 ## 19.6 0 0 0 0 ## 19.8 0 0 0 0 ## 19.9 0 0 0 0 ## 20 0 0 0 0 ## 20.3 0 0 0 0 ## 20.5 0 0 0 0 ## 20.6 0 0 0 0 ## 21.4 0 0 0 0 ## 21.6 0 0 0 0 ## 21.7 0 0 0 0 ## 21.9 0 0 0 0	##		0			
## 19.6 0 0 0 0 ## 19.8 0 0 0 0 ## 19.9 0 0 0 0 ## 20 0 0 0 0 ## 20.3 0 0 0 0 ## 20.5 0 0 0 0 ## 20.6 0 0 0 0 ## 21.4 0 0 0 0 ## 21.6 0 0 0 0 ## 21.7 0 0 0 0 ## 21.9 0 0 0 0						
## 19.8 0 0 0 0 ## 19.9 0 0 0 0 ## 20 0 0 0 0 ## 20.3 0 0 0 0 ## 20.5 0 0 0 0 ## 20.6 0 0 0 0 ## 21.4 0 0 0 0 ## 21.6 0 0 0 0 ## 21.7 0 0 0 0 ## 21.9 0 0 0 0						
## 19.9 0 0 0 0 ## 20 0 0 0 0 ## 20.3 0 0 0 0 ## 20.5 0 0 0 0 ## 20.6 0 0 0 0 ## 21.4 0 0 0 0 ## 21.6 0 0 0 0 ## 21.7 0 0 0 0 ## 21.9 0 0 0 0						
## 20 0 0 0 0 ## 20.3 0 0 0 0 ## 20.5 0 0 0 0 ## 20.6 0 0 0 0 ## 21.4 0 0 0 0 ## 21.6 0 0 0 0 ## 21.7 0 0 0 0 ## 21.9 0 0 0 0						
## 20.3 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0						
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## 21.4 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0						
## 21.6 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0						
## 21.7 0 0 0 0 0 ## 21.9 0 0 0						
	##		0	0		
## 22.5 0 0 0 0	##		0	0	0	0
	##	22.5	0	0	0	0

##	22.6	0	0	0	0
##	22.7	0	0	0	0
##	23	0	0	0	0
##	23.1	0	0	0	0
##	23.4	0	0	0	0
##	23.6	0	0	0	0
##	23.7	0	0	0	0
##	23.8	0	0	0	0
##	23.9	0	0	0	0
##	24.5	0	0	0	0
##	24.7	0	0	0	0
##	25	0	0	0	0
##	26.4	0	0	0	0
##	26.7	0	0	0	0
##	27.1	0	0	0	0
##	27.5	0	0	0	0
##	27.9	0	0	0	0
##	28.6	0	0	0	0
##	29.6	0	0	0	0
##	29.8	0	0	0	0
##	30.8	0	0	0	0
##	31.6	0	0	0	0
##	33.2	1	0	0	0
##	33.3	0	1	0	0
##	33.4	0	0	0	0
##	34.7	0	0	0	0
##	36 36.2	0	0	0	0
##	36.5	0	0	0	0
##	37.3	0	0	0	0
##	41.3	0	0	1	0
##	43.1	0	0	0	0
##	46	0	0	0	1
##	50	0	0	0	0
##	pred				
##		711928956385 44.830309	2046667 51.1831	011274403 51.305043	1301172
##	5	0	0	0	0
##	7	0	0	0	0
##	7.2	0	0	0	0
##	8.4	0	0	0	0
##	8.5	0	0	0	0
##	10.4	0	0	0	0
##	10.5	0	0	0	0
##	11.5	0	0	0	0
##	11.8	0	0	0	0
##	11.9	0	0	0	0
##	12	0	0	0	0
##	13.1	0	0	0	0
## ##	13.2 13.5	0 0	0 0	0 0	0
##	13.5	0	0	0	0
##	13.8	0	0	0	0
##	14.3	0	0	0	0
##	14.4	0	0	0	0
	· -	·	-	-	•

##	14.5	0	0	0	0
##	14.6	0	0	0	0
##	15.2	0	0	0	0
##	15.3	0	0	0	0
##	16.1	0	0	0	0
##	16.2	0	0	0	0
##	16.8	0	0	0	0
##	17.1	0	0	0	0
##	17.5	0	0	0	0
##	17.6	0	0	0	0
##	17.8	0	0	0	0
##	18.1	0	0	0	0
##	18.2	0	0	0	0
##	18.5	0	0	0	0
##	18.6	0	0	0	0
##	18.7	0	0	0	0
##	19.2	0	0	0	0
##	19.3	0	0	0	0
##	19.4	0	0	0	0
##	19.4	0	0	0	0
##	19.8	0	0	0	0
##	19.9	0	0	0	0
##	20	0	0	0	0
	20.3				
##	20.5	0	0	0	0
##	20.6	0	0	0	0
## ##	21.4	0	0	0	0
			0	0	0
##	21.6	0	0	0	0
##	21.7	0	0	0	0
##	21.9	0	0	0	0
## ##	22.5	0	0	0	0
##	22.6	0	0	0	0
##	22.7 23	0	0	0	0
##	23.1		0	0	0
##	23.4	0	0	0	0
	23.4	0	0	0	0
##				_	_
## ##	23.7 23.8	0	0	0	0
##	23.9	0	0	0	0
##	24.5	0	0	0	0
##	24.7	0	0	0	0
##	25	0	0	0	0
##	26.4	0	0	0	0
##	26.7	0	0	0	0
##	27.1	0	0	0	0
##	27.5	0	0	0	0
##	27.9	0	0	0	0
##	28.6	0	0	0	0
##	29.6	0	0	0	0
##	29.8	0	0	0	0
##	30.8	0	0	0	0
##	31.6	0	0	0	0
##	33.2	0	0	0	0
##	JJ. Z	V	V	V	U

```
##
     33.3
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##
     33.4
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##
     34.7
                                             0
                                                                0
                                                                                   0
                          0
##
     36
                          0
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                                                                0
                                                                                   0
     36.2
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##
                                             0
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##
     36.5
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                                                                0
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##
     37.3
                          0
                                             0
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##
     41.3
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##
     43.1
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                                             0
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##
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                          0
                                             0
                                                                0
                                                                                   0
##
     50
                          0
                                             1
                                                                1
                                                                                   1
```

```
#pred=predict(sumfit, newdata=Boston[test,])
#MAE(pred)
```

```
print(1 - sum(diag(prop.table(tab))))

pred=predict(svmfit, newdata=Boston[test,])

mean_sqr_error_b <- MSE(pred, Boston[test, ]$medv)
print(mean_sqr_error_b)

mean_avg_error_b <- MAE(pred, Boston[test, ]$medv)
print(mean_avg_error_b)</pre>
```

The MCR (missclassification rate) in the case of radial SVM is 0.97. The mean squared error is 24.67. The mean average error is 2.7.